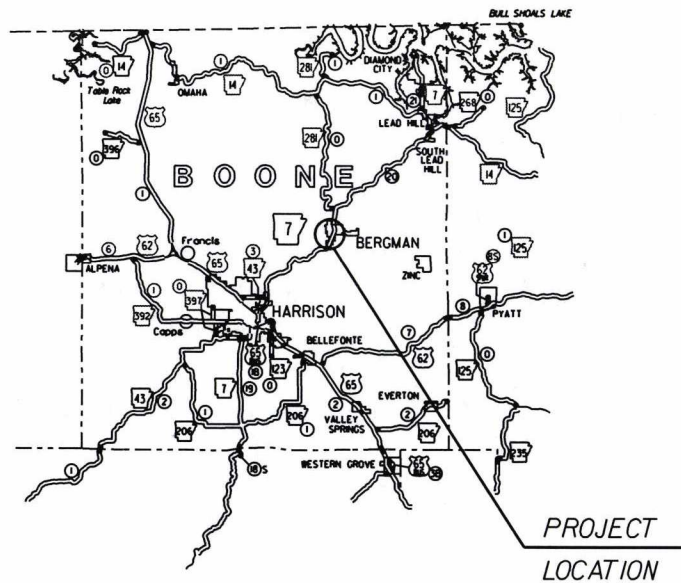


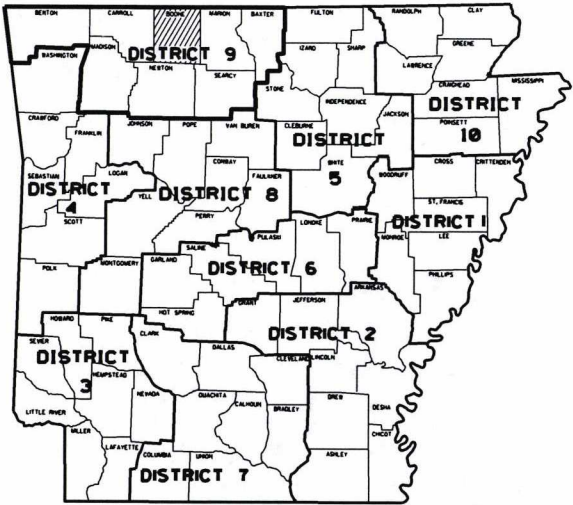
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						C05003	1	26
4 BERGMAN MAIN ST. WIDENING AND OVERLAY(S)								

VICINITY MAP



ARKANSAS DEPARTMENT OF TRANSPORTATION  
CONSTRUCTION PLANS FOR PROPOSED CITY STREET

BERGMAN MAIN ST. WIDENING AND OVERLAY (S)  
MAIN STREET  
BOONE COUNTY  
JOB C05003



ARK. HWY. DISTRICT NO. 9

SCALE: 1" = 2100'

BEGIN SECTION 1 AT STATION 100+00.00

END SECTION 1 AT STATION 122+00.00

BEGIN SECTION 3 AT STATION 303+53.00

END SECTION 3 AT STATION 310+50.00

DESIGN DATA

2018 ADT = 1000  
2038 ADT= 1300  
TRUCKS = 3%  
DESIGN SPEED = 20 MPH

APPROVED



6-15-18  
DEPUTY DIRECTOR  
AND CHIEF ENGINEER

PROJECT COORDINATES

	BEGIN	MID-POINT	END
LAT.	N36°18'45"	N36°18'45"	N36°18'45"
LONG.	W93°01'11"	W93°01'01"	W93°00'54"

JOB C05003			
GROSS LENGTH OF PROJECT	2897.00	FEET OR	0.549 MILES
NET " " ROADWAY	2897.00	" "	0.549 "
NET " " BRIDGE	000.00	" "	0.000 "
NET " " PROJECT	2897.00	" "	0.549 "

INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG. NO.
1	TITLE SHEET		
2	INDEX OF SHEETS AND STANDARD DRAWINGS		
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
4-5	TYPICAL SECTIONS OF IMPROVEMENT		
6	SPECIAL DETAILS		
7-8	TEMPORARY EROSION CONTROL DETAILS		
9	UTILITIES AND DESIGN DETAIL		
10	PAVEMENT MARKING DETAILS		
11-13	QUANTITIES		
14	SUMMARY OF QUANTITIES AND REVISIONS		
15-16	SURVEY CONTROL DETAILS		
17-19	PLAN AND PROFILE SHEETS		
20-26	CROSS SECTIONS		

DRWG.NO.	TITLE	DATE
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9	DETAILS OF DROP INLETS & JUNCTION BOXES	01-16-01
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	06-01-17
SHS-1	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES	09-12-13
SHS-2	U-CHANNEL POST ASSEMBLIES	02-27-14
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-14
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-4	WIRE FENCE TYPE C AND D	08-22-02





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. C05003	3	26
4 GOVERNING SPECIFICATIONS AND GENERAL NOTES								

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1_____	AGGREGATE BASE COURSE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTACE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
JOB C05003_____	BIDDING REQUIREMENTS AND CONDITIONS
JOB C05003_____	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB C05003_____	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB C05003_____	MANDATORY ELECTRONIC CONTRACT
JOB C05003_____	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB C05003_____	RECYCLED ASPHALT SHINGLES
JOB C05003_____	SHORING FOR CULVERTS
JOB C05003_____	STORM WATER POLLUTION PREVENTION PLAN
JOB C05003_____	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB C05003_____	UTILITY ADJUSTMENTS
JOB C05003_____	WARM MIX ASPHALT
JOB C05003_____	WELLHEAD PROTECTION

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
4. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
6. THIS JOB IS PERMITTED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
7. UTILITIES INTERFERING WITH CONSTRUCTION SHALL BE MOVED BY THE OWNERS.
8. TRAFFIC TO BE MAINTAINED ON EXISTING ROAD DURING CONSTRUCTION.

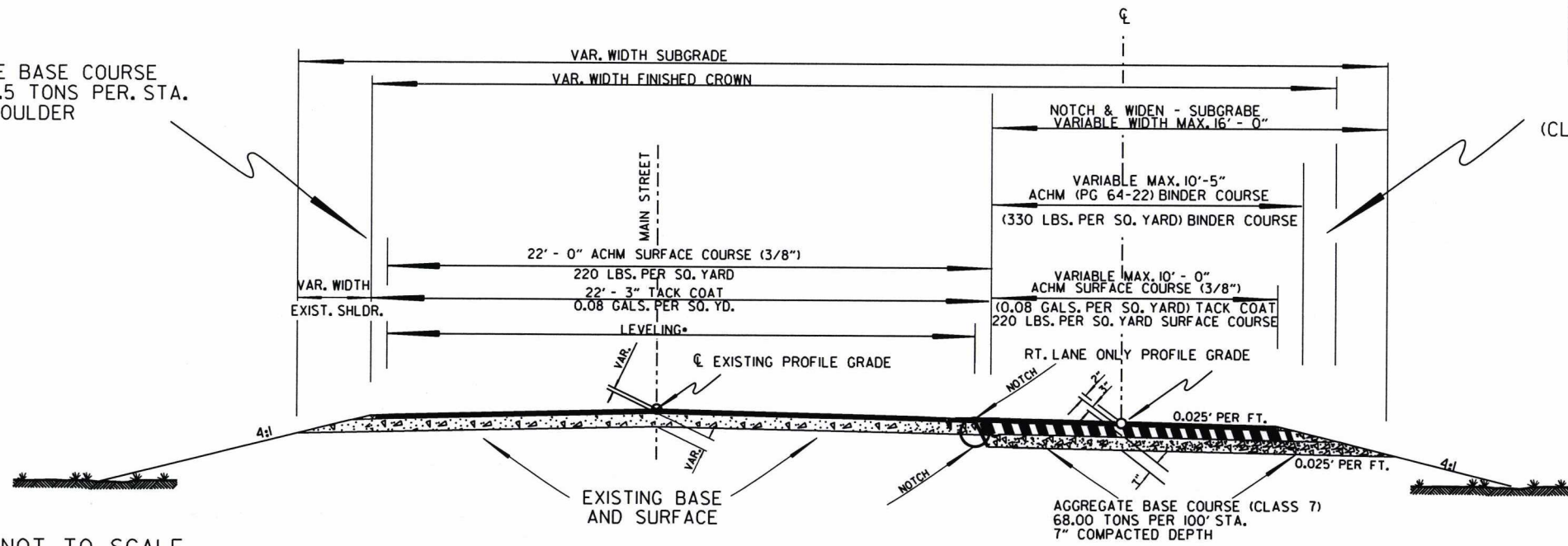


6-19-18



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	4	26
TYP. SECT. OF IMPRV. AND SPECIAL DETAILS								

AGGREGATE BASE COURSE  
(CLASS 7) - 1.5 TONS PER. STA.  
SHOULDER

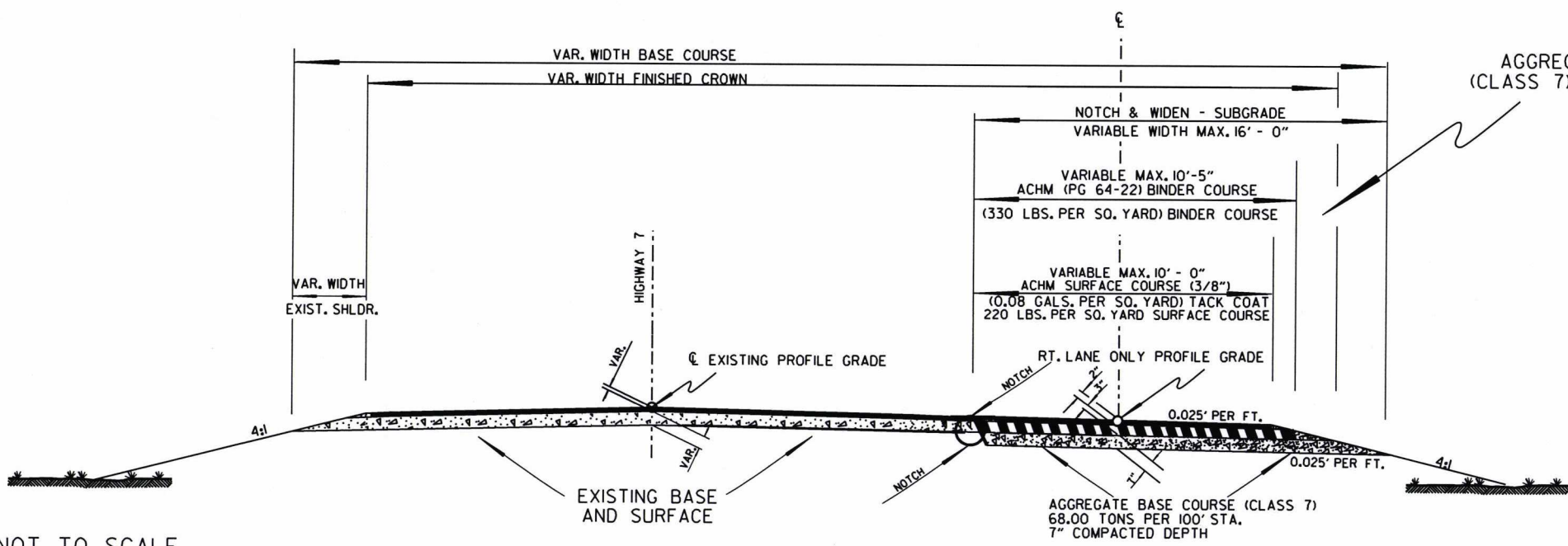


AGGREGATE BASE COURSE  
(CLASS 7) - 1.5 TONS PER. STA.  
SHOULDER

NOTE: NOT TO SCALE

TYPICAL SECTION FOR THE CONNECTIONS OF THE  
RIGHT TURN LANE CONNECTED TO MAIN STREET  
STATIONS 303+53.00 - 305+28.00

\*LOCATION AND APPLICATION RATES ARE AT THE DIRECTION OF THE ENGINEER.  
SEE QUANTITY SHEET FOR ESTIMATED AMOUNTS.



AGGREGATE BASE COURSE  
(CLASS 7) - 1.5 TONS PER. STA.  
SHOULDER

NOTE: NOT TO SCALE

TYPICAL SECTION FOR THE CONNECTIONS OF THE  
ACCELERATION LANE CONNECTED TO HIGHWAY 7  
STATIONS 307+84.00 - 310+50.00

NOTES: REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL  
SLOPES. NO CHANGES WILL BE MADE FROM THE PLANNED  
SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

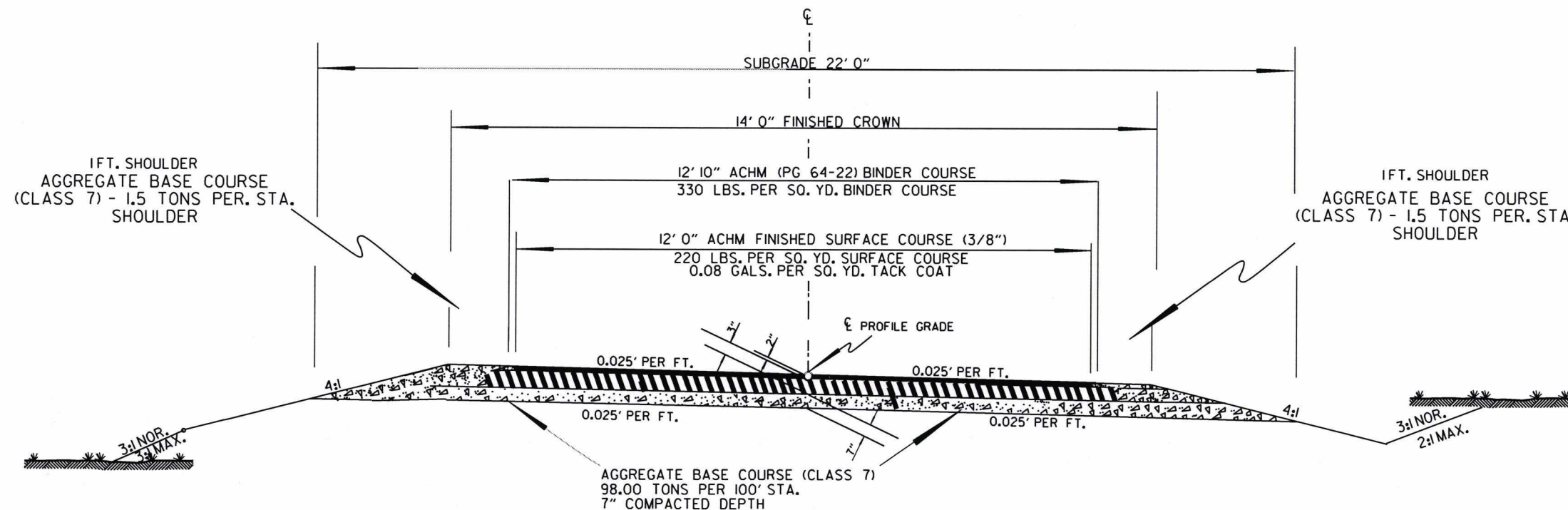
THE THICKNESS OF AGG. BASE COURSE SHALL  
BE WITHIN PLUS OR MINUS ONE INCH OF THE  
PLAN THICKNESS SHOWN. THE CONTRACTOR WILL  
CORRECT ANY DEFICIENT THICKNESS THAT DOES  
NOT MEET TOLERANCE INDICATED. PAYMENT  
WILL NOT BE MADE FOR MATERIAL PLACED IN  
EXCESS OF THE TOLERANCE INDICATED.





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	5	26

4 TYP. SECT. OF IMPRV. AND SPECIAL DETAILS

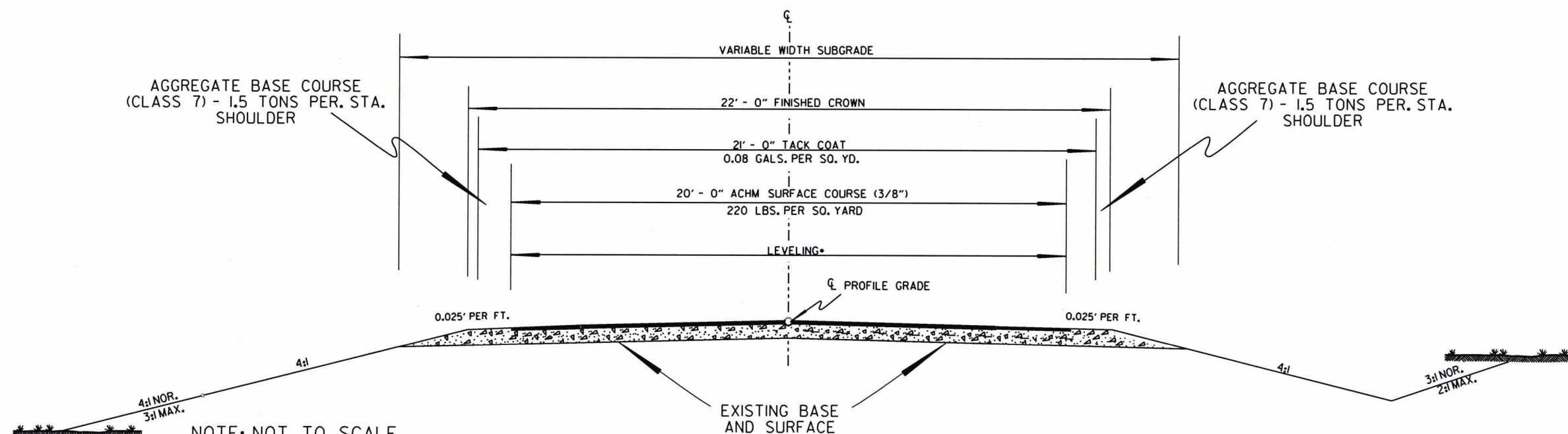


TYPICAL SECTION RIGHT TURN LANE HORIZONTAL CURVE

STATIONS 305+28.00 - 307+84.00

NOTE: NOT TO SCALE

NOTE: THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.



TYPICAL SECTION OF IMPROVEMENT MAIN STREET

STATIONS 100+00.00 - 122+00.00

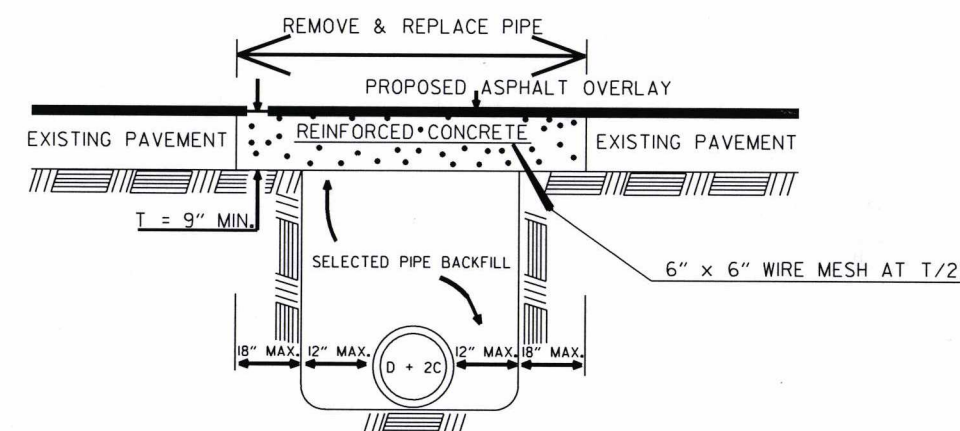
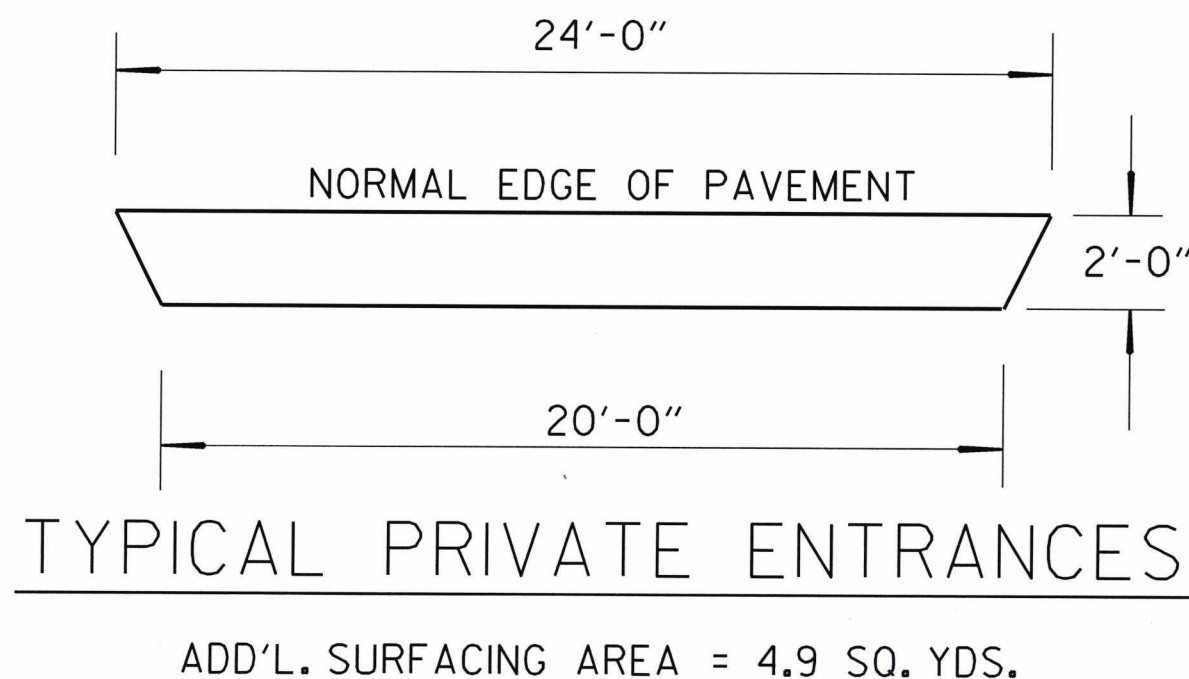
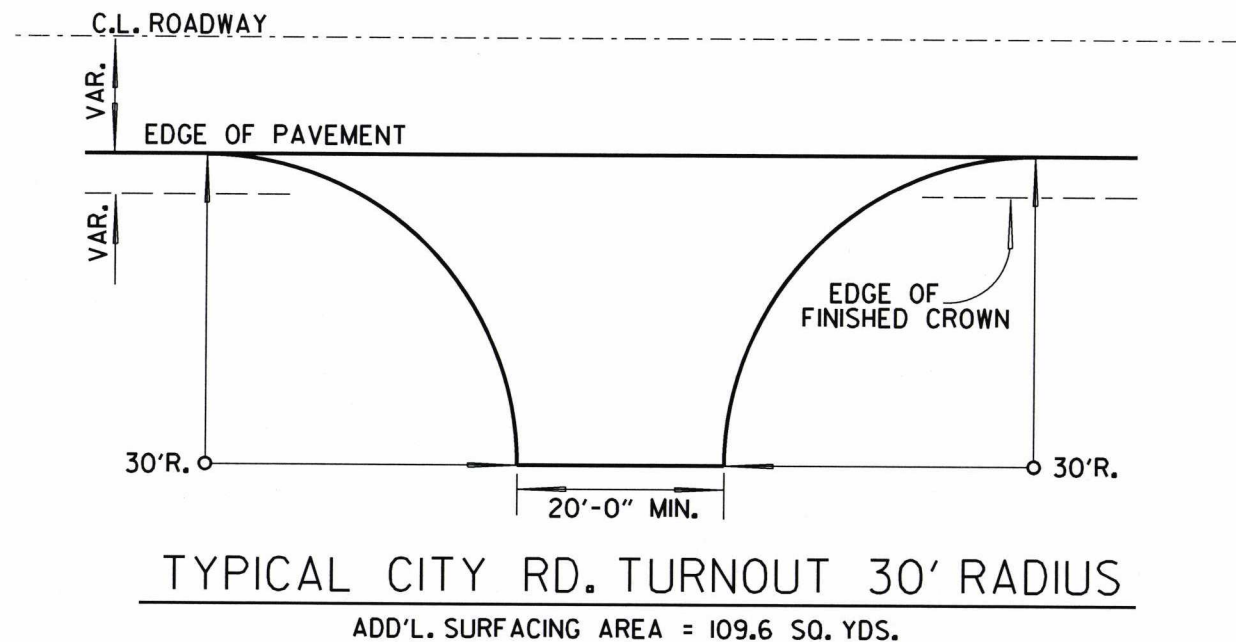
NOTE: NOT TO SCALE

\*LOCATION AND APPLICATION RATES ARE AT THE DIRECTION OF THE ENGINEER. SEE QUANTITY SHEET FOR ESTIMATED AMOUNTS.



TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE PLANNED	DATE REVISED	DATE PLANNED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	C05003	6	26	
4 TYP. SECT. OF IMPRV. AND SPECIAL DETAILS								



PAVEMENT REPAIR OVER REMOVED AND REPLACED CULVERTS (CONCRETE)  
STATION 108+00.00 MAIN LANE

NOTE: DIMENSIONS MAY BE MODIFIED IF AND  
WHERE DIRECTED BY THE ENGINEER.  
THESE SKETCHES ARE NOT TO SCALE.



SPECIAL DETAILS



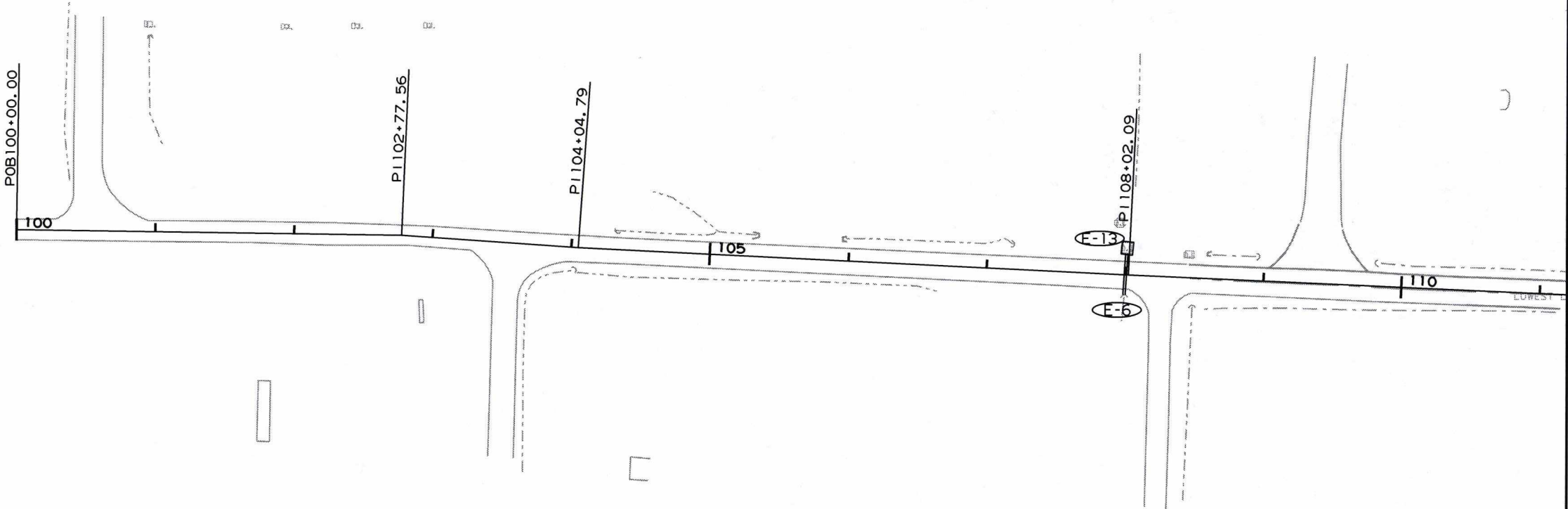
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	7	26
TEMPORARY EROSION CONTROL DETAILS								

ROCK DITCH CHECKS (E-6)  
108+00.00 RT. = 1.2 CU. YDS.

SEDIMENT REMOVAL & DISPOSAL  
1 CU. YDS.

COMPOST FILTER SOCK (E-13)  
108+00.00 LT. = 40 LIN. FT.

SEDIMENT REMOVAL & DISPOSAL  
1 CU. YDS.



REVISIONS

DATE	DESCRIPTION



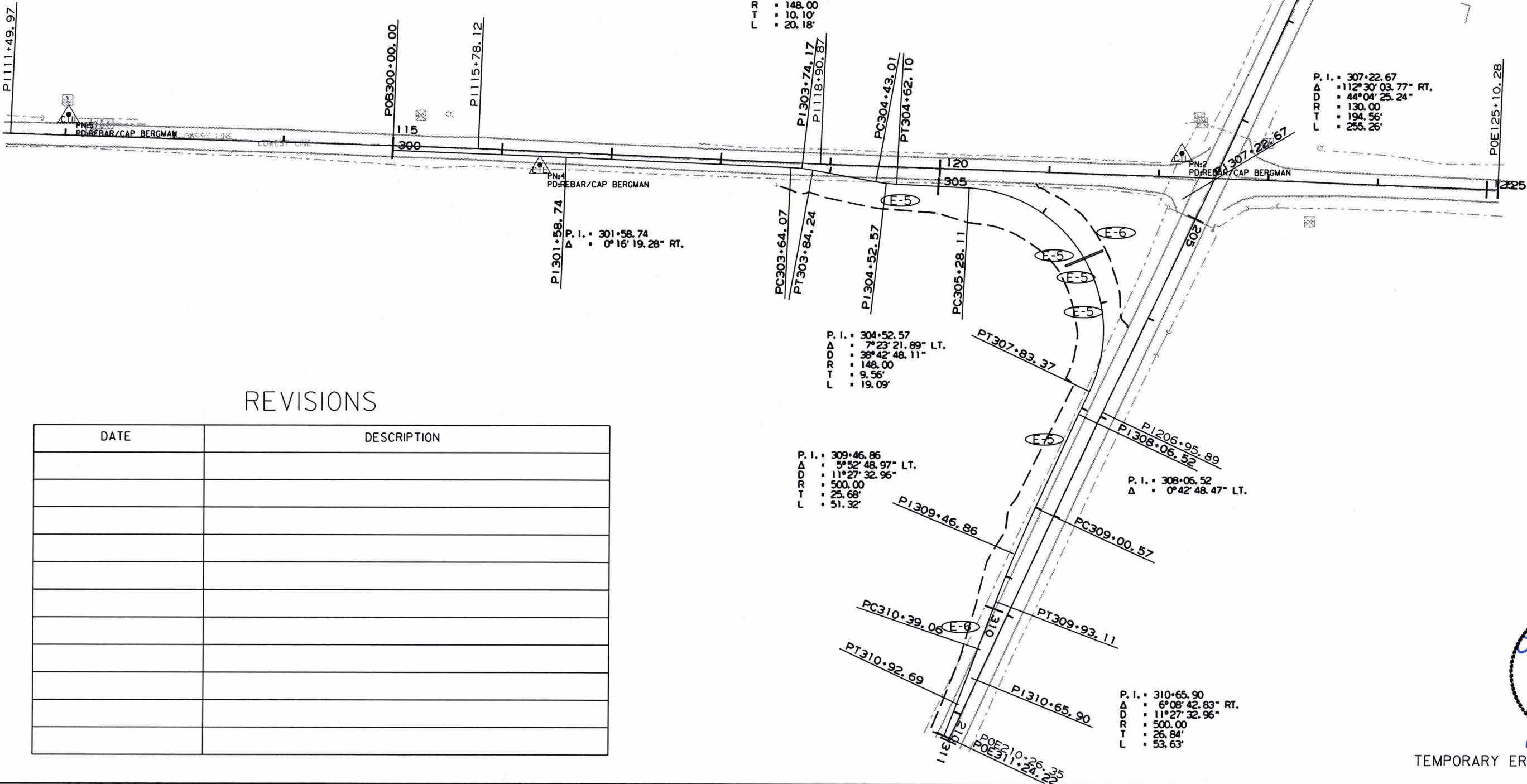
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	8	26
TEMPORARY EROSION CONTROL DETAILS								

ROCK DITCH CHECKS (E-6)  
310+34.00 RT. = 1.2 CU. YDS.  
306+45.00 LT. = 1.2 CU. YDS.

SEDIMENT REMOVAL & DISPOSAL  
1 CU. YDS.  
1 CU. YDS.

SAND BAG DITCH CHECKS (E-5)  
STA. 304+62.00 RT. = 12 BAGS  
STA. 306+44.00 RT. = 12 BAGS  
STA. 306+48.00 RT. = 12 BAGS  
STA. 307+00.00 RT. = 12 BAGS  
STA. 308+37.00 RT. = 12 BAGS

SEDIMENT REMOVAL & DISPOSAL  
1 CU. YDS.  
1 CU. YDS.  
1 CU. YDS.  
1 CU. YDS.  
1 CU. YDS.



REVISIONS

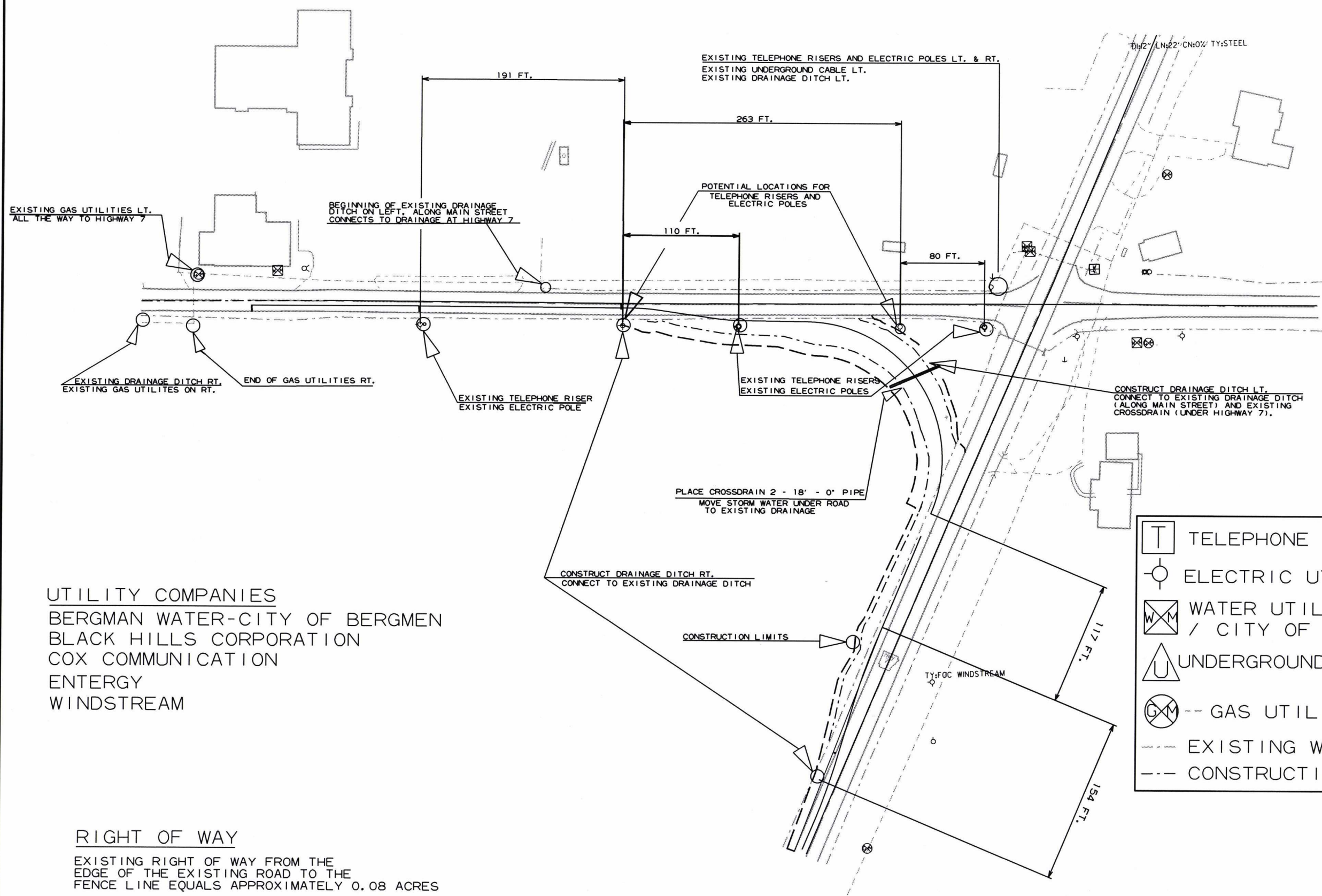
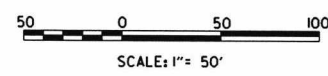
DATE	DESCRIPTION



6-15-18  
TEMPORARY EROSION CONTROL DETAILS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	9	26
4 UTILITIES AND DESIGN DETAIL								

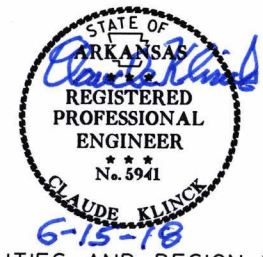


UTILITY COMPANIES  
 BERGMAN WATER-CITY OF BERGMEN  
 BLACK HILLS CORPORATION  
 COX COMMUNICATION  
 ENTERGY  
 WINDSTREAM

RIGHT OF WAY  
 EXISTING RIGHT OF WAY FROM THE  
 EDGE OF THE EXISTING ROAD TO THE  
 FENCE LINE EQUALS APPROXIMATELY 0.08 ACRES  
 PROPOSED RIGHT OF WAY THE FENCE LINE  
 JUST PAST THE REQUIRED AREA FOR  
 CONSTRUCTION IS 0.34 ACRES

	TELEPHONE RISER - WINDSTREAM / COX
	ELECTRIC UTILITY POLE - ENTERGY
	WATER UTILITIES - BERGMAN WATER / CITY OF BERGMEN
	UNDERGROUND CABLE - WINDSTREAM / COX
	GAS UTILITIES - BLACK HILLS CORP.
	EXISTING WATER DITCH LINE
	CONSTRUCTION DITCH LINE

RIGHT TURN LANE





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	C05003		10	26
PAVEMENT MARKINGS DETAIL								

STATIONS 304+53 - 311+24  
ON RIGHT 4" SOLID WHITE  
LINE

STATIONS 305+00 - 305+50  
ON LEFT 6" - WHITE SOLID  
LINE

STATIONS 303+60 - 305+00  
ON LEFT 6" - WHITE DOTTED  
LINE (3' SKIP 9')

STATION 304+60 RIGHT TURN LANE  
1 - TURN LANE - USE ARROW  
1 - WORD PAVEMENT MARKING "ONLY"

STATIONS 307+84 - 310+50 ON RIGHT  
6' OFFSET WITH 8" WHITE PAINT  
AND 4" SOLID WHITE EDGELINE PAINT

STATIONS 302+00 RT.  
RIGHT TURN ONLY SIGN  
(W1-2)

STATIONS 307+00 RT.  
YIELD SIGN  
(R1-2)

STATIONS 122+00 RT.  
STOP SIGN  
(R1-1)

STATIONS 100+00 - 122+00 ON LEFT  
4" SOLID WHITE LINE

STATION 122+00  
1 - STOP LINE - 12" WHITE LINE

STATIONS 100+00 - 119+08 ON RIGHT  
4" SOLID WHITE LINE  
STATIONS 120+40 - 120+50 ON RIGHT  
6" SOLID WHITE LINE  
STATIONS 120+50 - 122+00 ON RIGHT  
4" SOLID WHITE LINE

STATIONS 305+75 - 307+84 ON LEFT  
4" SOLID YELLOW LINE

STATIONS 307+84 - 308+00 ON LEFT  
6" SOLID WHITE LINE

STATIONS 308+00 - 310+50 ON LEFT  
6" DOTTED WHITE LINE (3' SKIP 9')

NOT TO SCALE

RIGHT TURN LANE



PAVEMENT MARKING DETAIL





STRUCTURES

STATION	DESCRIPTION	JUNCTION BOX (TYPE E)	REINFORCED CONCRETE (CLASS V)	REINFORCED CONCRETE (CLASS IV)	FLARED END SECTION		SELECTED PIPE BEDDING	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	SOLID SODDING	WATER	STANDARD DRAWINGS
			24" ROUND PIPE	29" X 18" ARCHED PIPE	ROUND PIPE	ARCHED PIPE					
		EACH	LIN. FT.	LIN. FT.	EACH	EACH	CU. YDS.	CU. YDS.	SQ. YD.	M.G.	
108+00.00	INSTALL PIPE CROSS DRAIN W/FES		44		1		20.00	4.80	21.00	0.30	PCC-1, FES-1, FES-1
108+00.00	LT. 20' OFFSET INSTALL JUNCTION BOX	1									FPC-9
306+44.00	INSTALL PIPE CROSS DRAIN W/FES			51		2	4.00		21.00	0.30	PCC-1, FES-1, FES-2
TOTALS:		1	44	51	1	2	24.00	4.80	42.00	0.60	
USE:		1	44	51	1	2	24	4.8	42	0.60	

BASIS OF ESTIMATE:  
WATER \_\_\_\_\_ 12.6 GALS. PER SQ. YD. (SOLID SODDING)

NOTE: FOR R.C. CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

EARTHWORK

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YDS.	
300+00.00	311+24.00	RIGHT TURN LANE	1016	179
TOTALS:			1016	179

NOTE: EARTHWORK TO BE PAID FOR AS PLAN QUANTITY.

REMOVAL AND DISPOSAL ITEMS

STATION	STATION	DESCRIPTION	REMOVAL & DISPOSAL OF FENCE	REMOVAL & DISPOSAL OF PIPE CULVERT	REMOVAL & DISPOSAL OF JUNCTION BOX
			LIN. FT.	EACH	EACH
108+00.00	108+00.00	REMOVE CROSS DRAIN UNDER MAIN STREET		1	
108+00.00	108+00.00	REMOVE JUNCTION BOX AT 20 FT. OFFSET TO LT.			1
300+00.00	305+47.03	5- STRAND BARBED WIRE FENCE ON RIGHT SIDE	547		
305+47.03	308+20.10	5-STRAND BARBED WIRE FENCE ON LEFT SIDE	273		
308+20.10	310+50.00	5-STRAND BARBED WIRE FENCE ON RIGHT SIDE	230		
TOTALS:			1050	1	1

DUMPED RIPRAP

STATION	LOCATION	FILTER BLANKET	DUMPED RIPRAP
		SQ. YDS.	CU. YDS.
306+45.00 RT & LT.	2 - 1.5 FT. DIAMETER CROSSDRAINS	40	40
TOTALS:		40	40

CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATION	
303+00.00	310+50.00	8	8
TOTALS:		8	8

STATE OF  
ARKANSAS  
REGISTERED  
PROFESSIONAL  
ENGINEER  
No. 5941  
CLAUDE KLINCK  
6-15-18



TRAFFIC CONTROL DEVICES

LOCATION	W20-1								G20-2		G20-1		BARRICADES	TRAFFIC DRUMS
	500 FT.		1000 FT.		1500 FT.		AHEAD							
	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	LN. FT.	EACH
MAIN STREET														
BEGINNING OF SECTION	1	16.00	1	16.00	1	16.00	1	16.00	1	8.00	1	8.00		
END OF SECTION	1	16.00	1	16.00	1	16.00	1	16.00	1	8.00	1	8.00		
RIGHT TURN LANE														
BEGINNING OF SECTION													20.00	16.00
END OF SECTION													20.00	16.00
HIGHWAY 7														
ENTIRE SECTION	1	16.00	1	16.00	1	16.00	1	16.00	1	8.00	1	8.00		
TOTALS:	3	48.00	3	48.00	3	48.00	3	48.00	3	24.00	3	24.00	40.00	32.00

NOTE: REFER TO STANDARD DRAWINGS TC-1, TC-2, AND TC-3.

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

STATION	SIDE	STANDARD SIGN NO.					SUPPORT ASSEMBLY		STANDARD DRAWING NO.
		W1-2	R1-2	R1-1	OM-3L	OM-3R	TYPE A	TYPE C	
		SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.		EACH	EACH	
122+00.00	RT.			6.25			1		SHS-1, SHS-2
302+00.00	RT.	6.25					1		SHS-1, SHS-2
306+44.00	LT. & RT.				3.00	3.00		2	SHS-1, SHS-2
306+48.00	LT. & RT.				3.00	3.00		2	SHS-1, SHS-2
307+83.00	RT.		4.50				1		SHS-1, SHS-2
TOTALS:		6.25	4.50	6.25	6.00	6.00	3	4	

NOTES: ALL STANDARD SIGN BLANKS TO BE 0.080" THICK. REFER TO STANDARD DRAWING SHS-2 FOR CHANNEL POST SPLICING DETAILS.

TEMPORARY EROSION CONTROL

LOCATION*	TEMPORARY SEEDING	MULCH COVER	WATER	SEDIMENT REMOVAL AND DISPOSAL
	ACRE	ACRE	M. GAL.	CU. YDS.
300+00.00 - 311+24.00	1.06	1.06	21.60	9.6
TOTALS:	1.06	1.06	21.60	10.0

BASIS OF ESTIMATE:  
WATER FOR TEMPORARY SEEDING - 20.4 M. GALLON PER ACRE TEMPORARY SEEDING  
NOTE: TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION OF U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.  
\*ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER.

EROSION CONTROL

STATION	STATION	DESCRIPTION	LIME	SEEDING	MULCH COVER	WATER
			TONS	ACRE		M. GALLON
300+00.00	310+50.00	RIGHT TURN LANE	2.10	1.06	1.06	108.1
120+00.00	122+00.00	MAIN STREET WIDENING	0.20	0.09	0.09	9.2
TOTALS:			2.30	1.15	1.15	117.3

USE: 2 1.15 1.15 117.3

BASIS OF ESTIMATE:  
LIME 2 TONS PER ACRE SEEDING  
WATER 102.0 M. GALLON PER ACRE SEEDING

TEMPORARY EROSION CONTROL

STATION	SIDE	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	COMPOST FILTER SOCK (12")
		BAGS	CU. YDS.	LIN. FT.
108+00.00	LT.		1.2	
108+00.00	RT.			40
304+62.00	RT.	12		
306+44.00	RT.	12		
306+45.00	LT.		1.2	
306+48.00	RT.	12		
307+00.00	RT.	12		
308+37.00	RT.	12		
310+34.00	LT.		1.2	
TOTALS:		60	3.6	40

BASIS OF ESTIMATE:  
NOTE: TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION OF U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.  
NOTE: QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.  
\*ROCK DITCH CHECKS, SAND BAG DITCH CHECKS, AND FILTER SOCKS ARE TEMPORARY EROSION CONTROLS.



QUANTITIES



BASE AND SURFACING QUANTITIES

DESCRIPTION	STATIONS		LENGTH	WIDTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT		ACHM BINDER COURSE (1")		ACHM SURFACE COURSE (3/8")	
	FROM	TO	LIN. FT.	LIN. FT.	TONS/STA.	TONS	SQ. YDS.	GALS.	SQ. YDS.	TONS.	SQ. YDS.	TONS
MAIN STREET	100+00.00	122+00.00	2200.00	22.00	1.50	66.00	5622.22	449.78			5377.78	591.56
2 CITY STREET ENTRANCES							219.20	17.54			54.6	6.01
8 SCHOOL ENTRANCES							436.80	34.94			708.9	77.98
1 PRIVATE DRIVE ENTRANCE							54.60	4.37			54.60	6.01
LEVELING												110.00
RT. TURN LANE	303+53.00	305+28.00	176.00	10.00	68.00	119.68	203.70	16.30	205.30	33.87	195.60	21.50
RT. TURN LANE	305+28.00	307+84.00	256.00	12.00	98.00	250.88	365.00	29.20	365.00	60.23	341.30	37.50
RT. TURN LANE	307+84.00	310+50.00	266.00	10.00	68.00	180.88	307.90	24.60	310.30	51.20	295.60	32.50
RT. TURN LANE SHOULDERS					1.50	15.41						
TOTALS:						632.85		576.73		145.30		883.06
USE:						633		577		145		883

BASIS OF ESTIMATE:

TACK COAT STATS. 100+00.00 - 122+00.00 0.08 GALLONS PER SQ. YD.  
ACHM BINDER COURSE (1") 330 LBS./SQ. YD.  
ACHM SURFACE COURSE (3/8") 220 LBS./SQ. YD.

PROPORTION BY WEIGHT:

ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8") 5.5%  
MINERAL AGGREGATE 94.5%

ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1") 4.5%  
MINERAL AGGREGATE IN ACHM BINDER COURSE (1") 95.5%

\*Nmax=115

WIRE FENCE

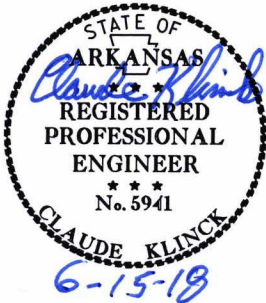
STATION	STATION	SIDE	WIRE FENCE (TYPE D)
			LIN. FT.
300+00.00	310+50.00	RT.	1050.00
TOTAL:			1050.00

REFLECTORIZED PAINT PAVEMENT MARKING

LOCATION	WHITE MARKING					YELLOW MARKING	WORDS (ONLY)	ARROWS	
	4" CONTINUOUS	6" CONTINUOUS	6" DOTTED	8" HATCHED	12" CONTINUOUS	4" CONTINUOUS			
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.		EACH	TYPE
MAIN STREET									
100+00.00 - 122+00.00	4225.00								
122+00.00					10.00				
RIGHT TURN LANE									
305+00 - 305+50 ON LEFT		50.00							
304+53 - 311+24 ON RIGHT	671.00								
303+60 - 305+50 ON LEFT			35.00						
304+60.00							1	RIGHT	1
307+84 - 310+50 ON RIGHT				30.00					
305+75 -307+84 ON LEFT						209.00			
307+84 - 308+00 ON LEFT		16.00	4.00						
308+00 - 310+50 ON LEFT			63.00						
307+54 - 310+50 ON LEFT				243.00					
TOTALS:	4896.00	66.00	102.00	273.00	10.00	209.00	1		1

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

NOTE: REFER TO STANDARD DRAWING PM-1 AND PAVEMENT MARKING SPECIAL DETAIL FOR DETAILS.



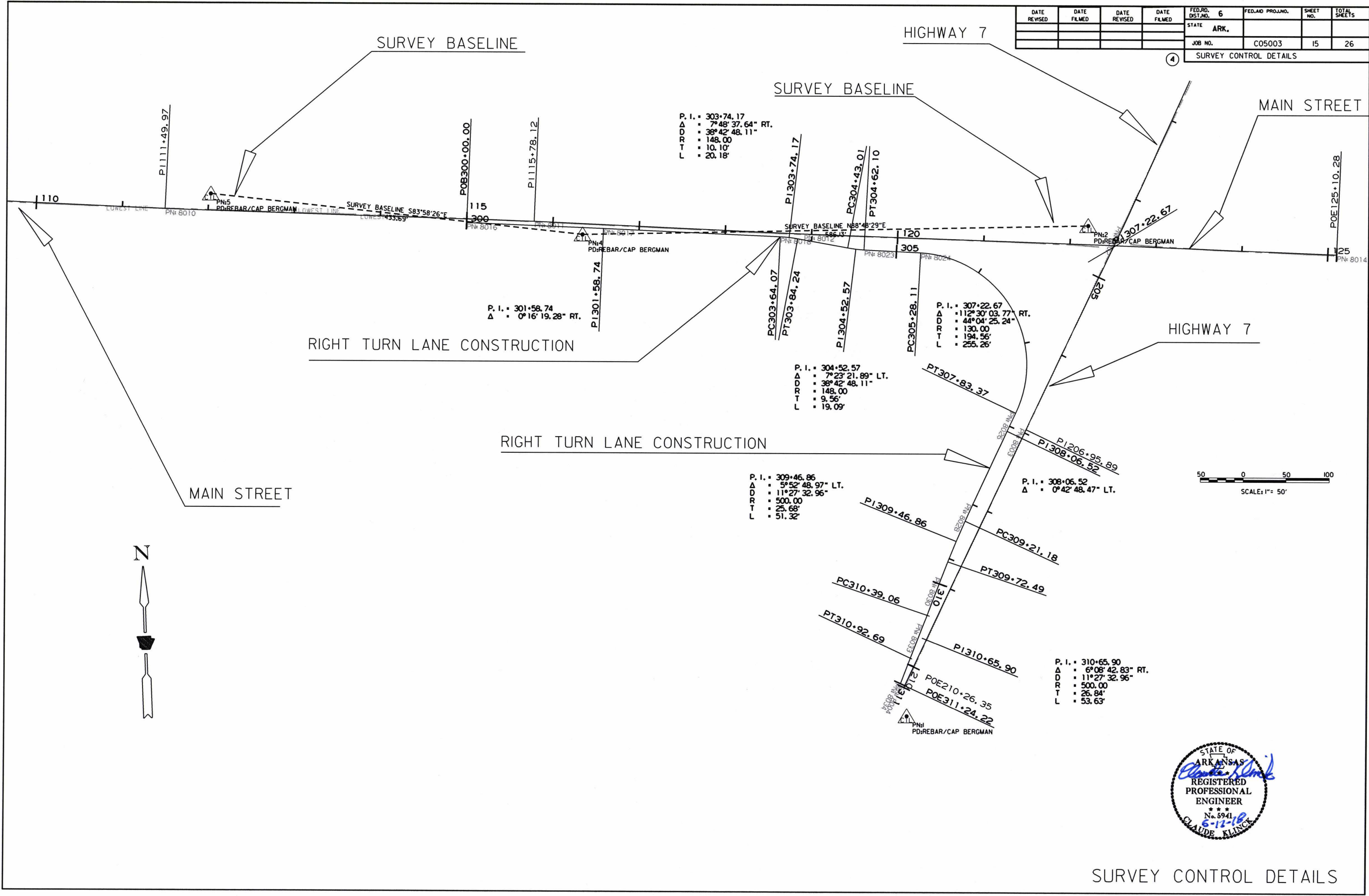
QUANTITIES







DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6			
				STATE	ARK.		
				JOB NO.	C05003	15	26
SURVEY CONTROL DETAILS							





4

SURVEY CONTROL COORDINATES  
Project Name: C05003  
Date: 7/18/2017  
Coordinate System: Arkansas State Plane Coordinates  
Horizontal Control Based on Opus Solution at PN: 3-5, Vertical Control Based on NGS BENCHMARK Z35  
Projected to Ground Coordinates  
Units: U.S. Survey Foot

COORDINATES LISTED BELOW ARE GROUND (Localized) COORDINATES !!!!

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	721479.4075	0.011	1013014.74	0.011	1280.246	0.0076	CTL	PD:5/8 REBAR WITH 2" ALUM CAP
2	722048.8968	0.0080	1013221.891	0.0090	1272.635	0.008	CTL	PD:5/8 REBAR WITH 2" ALUM CAP
3	722553.6894	0.0000	1013504.564	0.0000	1265.474	0.007	CTL	PD:5/8 REBAR WITH 2" ALUM CAP
4	722036.7042	0.0100	1012635.889	0.0100	1283.526	0.008	CTL	PD:5/8 REBAR WITH 2" ALUM CAP
5	722082.2337	0.0000	1012204.593	0.0000	1285.650	0.008	CTL	PD:5/8 REBAR WITH 2" ALUM CAP
900	723667.442	30.0000	1013373.045	30.0000	1215.790	0.000	TBM	PD:Z-35 NGS MARK BRASS CAP IN FACE 1ST PIER S OF RR 2.3' ABOVE TOP OF RAIL IN THE CITY OF BERGMAN
901	723719.0407	0.0110	1013384.429	0.0110	1242.216	0.006	TBM	PD:CHISELED SQ IN SE COR BR.OVER RR HWY: 7 SEC 20 LM 9.72 17' E CL HWY: 7 72' NW OF TYSON SIGN 45' N OF 18" CMP IN THE CITY OF BERGMAN
902	721980.6039	0.0130	1013251.005	0.0130	1271.817	0.004	TBM	PD:CHISELED SQ IN CENTER OF HW 20' E 51' S CL EAST MAIN ST 21' W OF GY IN THE CITY OF BERGMAN

\*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap stamped: "(include all common information here)" plus other markings indicated in the point description of the individual point. AHTD monuments will be stamped "Arkansas Hwy & Trans Dept" with "PN: ####" & "Job #####". Monuments that are set by Consultants will be stamped "Arkansas Hwy & Trans Dept" with "PN:####", "Job#####", & "PS####". The consultant Professional Surveyor in charge will stamp his/her PS license number on the cap.  
\*\*Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped: "(include all common information here)" plus other markings indicated in the point description of the individual point. These monuments will be stamped "Ark. State Hwy Trans. Dept.", "GPS Survey", & "Point No. #####".  
SX, SY, SZ - Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares analysis of the control network. See the AASHTO SDMS Technical Data Guide data tag definition for SX, SY, and SZ: for additional information. These values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.001 is defined as fixed (no adjustment) in the least square analysis process. A value of 30 is defined as location by handheld GPS device or scaled from USGS Quadmap.  
Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project datum with 3-wire level techniques.  
All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

Positional Accuracy: Horizontal - GPS (1.0 cm± 1PPM) PN: N/A  
Horizontal - Primary (2.0cm± 20PPM): PN: 1-5  
Horizontal - Secondary (3 cm ± 50PPM): PN: N/A  
Vertical - NGS 1st Order (±4mm x Vdist in km) PN: N/A  
Vertical - NGS 2nd Order (±6mm x Vdist in km) PN: Z35  
Vertical - NGS 3rd Order (±8mm x Vdist in km) PN:N/A

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0301-North Zone  
The adjustment year is based on metadata in the SDMS Control file  
A project CAF of: 0.99995557 has been used to compute the above coordinates.  
The project CAF shall have a minimum precision of 9 digits right of the decimal.  
This CAF is intended for use within the project limits only.  
Grid Distance = Ground Distance X CAF  
If Coordinates are listed as Ground:  
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0  
If Coordinates are listed as Grid:  
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM:  
A project Elevation Factor of: 0.999939617 has been computed and incorporated in the above CAF.  
This is based on the average elevation of the project: 1262.44 Feet  
3-Wire Leveling techniques have been used to establish elevations on  
Points: 1-5, 900-902  
From NGS BM: Z35

Basis of Bearing: Grid Bearings based on AHTD GPS points:  
Convergence Angle is: 0-35-31 LEFT at PN: 4  
LT: 36-18-45.8 N LG: 093-01-01.8 W  
Grid Azimuth = Astronomical Azimuth - Convergence Angle

Note: Information in Italics is for clarification only. It is not to be part of the actual Control Table or Control Detail Sheets.

HIGHWAY 7

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	200+00.00	722446.4209	1013436.2288
8001	PI	200+85.08	722366.6061	1013406.7558
8002	PI	204+35.79	722047.1237	1013262.0999
8003	PI	206+95.89	721812.1430	1013150.5893
8004	POE	210+26.35	721512.5664	1013011.0965

MAIN STREET

POINT NO.	TYPE	STATION	NORTHING	EASTING
8005	POB	100+00.00	722110.3996	1011002.6781
8006	PI	102+77.56	722106.9565	1011280.2122
8007	PI	104+04.79	722098.3669	1011407.1601
8008	PI	108+02.09	722079.4848	1011804.0119
8009	PI	111+49.97	722064.5758	1012151.5651
8010	PI	115+78.12	722051.6127	1012579.5243
8011	PI	118+90.87	722038.2025	1012891.9859
8012	PI	122+28.56	722026.9836	1013229.4828
8013	POE	125+10.28	722016.1503	1013511.9960

RIGHT TURN LANE

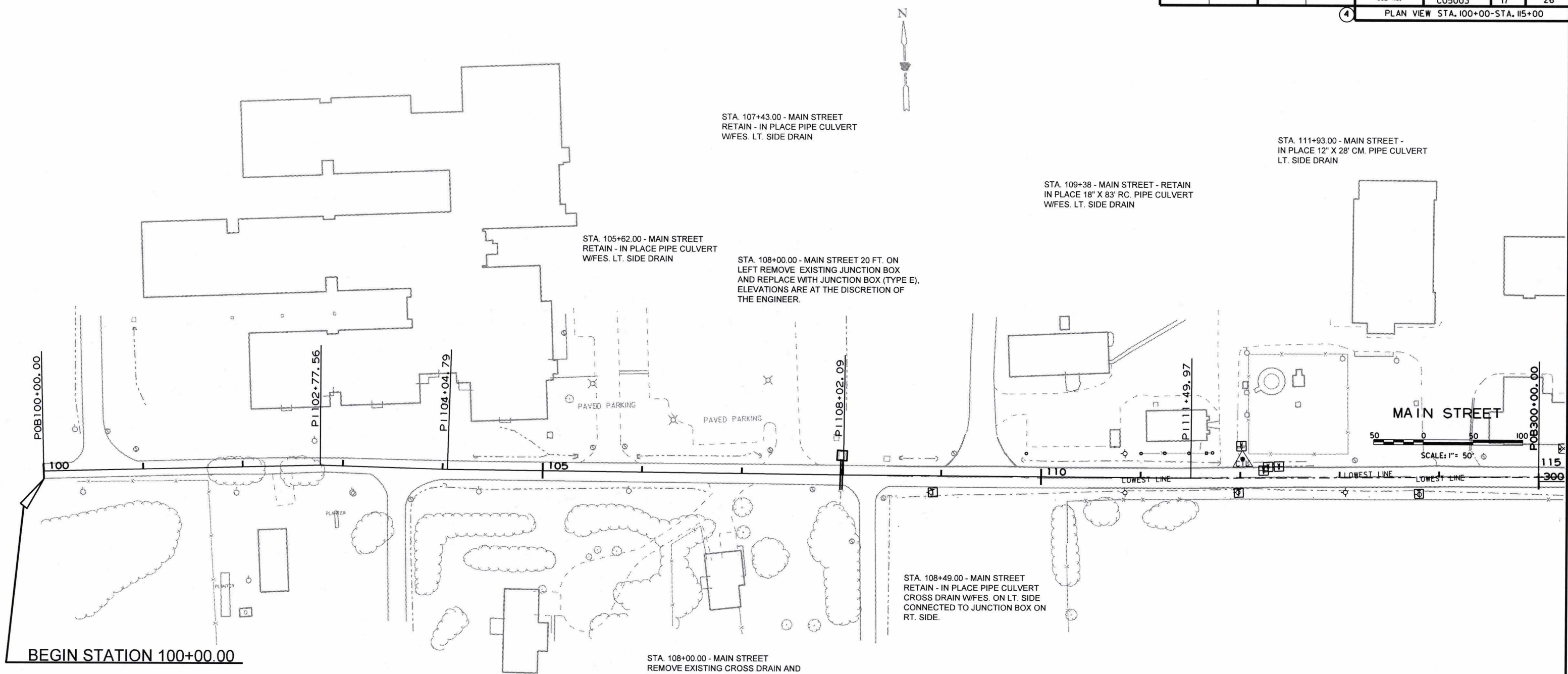
POINT NO.	TYPE	STATION	NORTHING	EASTING
8016	POB	300+00.00	722049.7469	1012501.2542
8017	PI	301+58.74	722043.7071	1012659.8799
8018	PC	303+64.07	722034.9208	1012865.0166
8020	PT	303+84.24	722032.6884	1012885.0521
8021	PC	304+43.01	722022.2168	1012942.8856
8023	PT	304+62.10	722020.0350	1012961.8347
8024	PC	305+28.11	722016.7258	1013027.7604
8026	PT	307+83.37	721831.1796	1013138.7014
8027	PI	308+06.52	721810.2564	1013128.7776
8015	PC	309+21.18	721706.0589	1013080.9377
8029	PT	309+72.49	721658.4083	1013061.9549
8030	PC	310+39.06	721595.3857	1013040.5237
8032	PT	310+92.69	721545.6360	1013020.5713
8034	POE	311+24.22	721517.0465	1013007.2846





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	C05003		17	26

PLAN VIEW STA. 100+00-STA. 115+00



BEGIN STATION 100+00.00

STA. 104+17.00 - MAIN STREET  
RETAIN - IN PLACE PIPE CULVERT  
CROSS DRAIN W/FES. ON  
LT. & RT. SIDE

STA. 108+00.00 - MAIN STREET  
REMOVE EXISTING CROSS DRAIN AND  
REPLACE WITH 24\" RCP W/FES. RT. SIDE  
AND CONNECT TO JUNCTION BOX ON  
LT. SIDE. INLET AND OUTLET ELEVATIONS  
ARE AT THE DISCRETION OF THE ENGINEER.

STA. 108+49.00 - MAIN STREET  
RETAIN - IN PLACE PIPE CULVERT  
CROSS DRAIN W/FES. ON LT. SIDE  
CONNECTED TO JUNCTION BOX ON  
RT. SIDE.

#### TRAFFIC CONTROL DEVICES

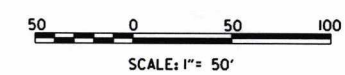
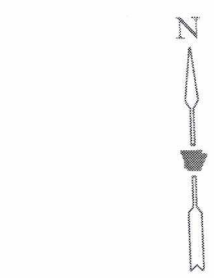
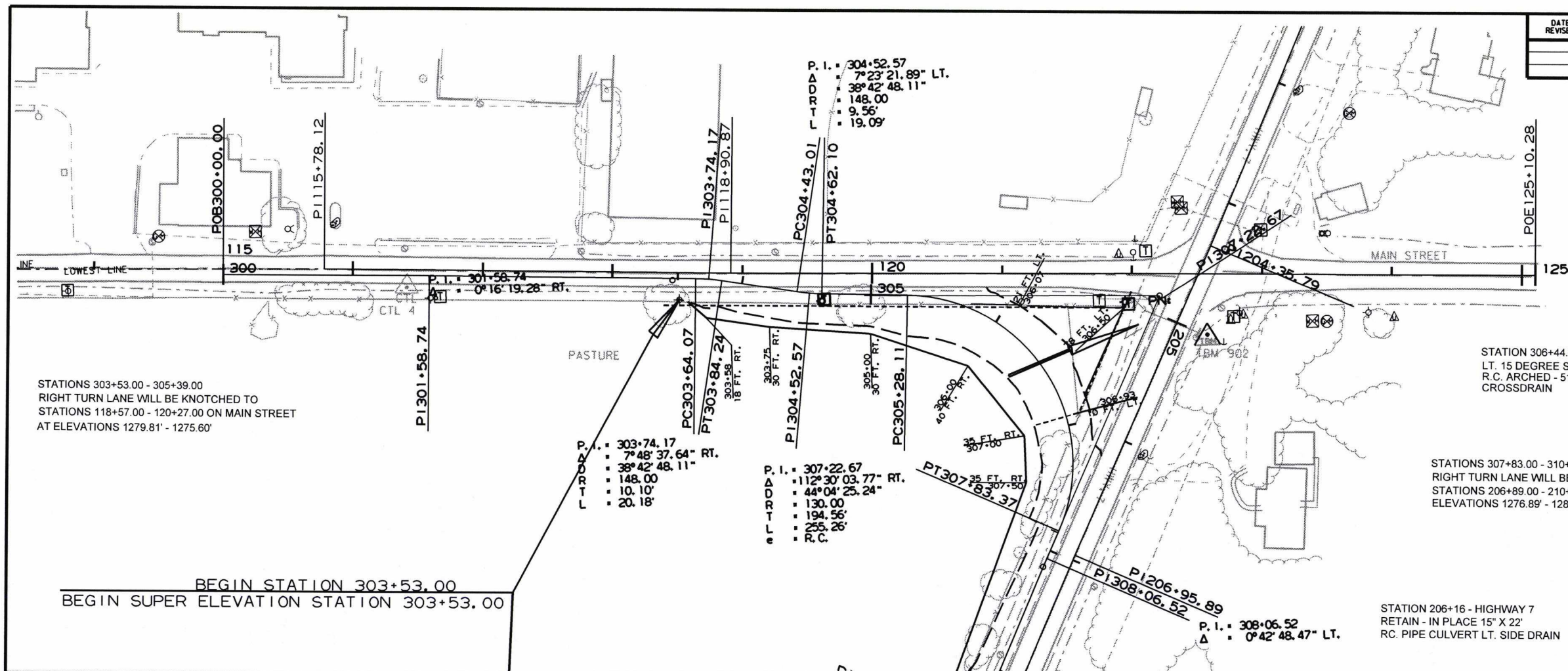
(W20-1)  
END OF SECTION - MAIN ST. LT. - 4 SIGNS = 64 SQ. FT.  
ENTIRE SECTION - HIGHWAY 7 LT. - 4 SIGNS = 64 SQ. FT.  
(G20-2)  
BEGINNING OF SECTION - MAIN ST. RT. 1 SIGN = 8 SQ. FT.  
END OF SECTION - MAIN ST. LT. - 1 SIGN = 8 SQ. FT.  
ENTIRE SECTION - HIGHWAY 7 LT. - 1 SIGN = 8 SQ. FT.  
BARRICADES  
STATIONS 300+00.00 - 306+75.00 RT. - 675.00 LIN. FT.  
STATIONS 307+50.00 - 311+24.00 LT. - 374.00 LIN. FT.  
TRAFFIC DRUMS  
STATIONS 300+00.00 - 306+75.00 RT. - 16.0  
STATIONS 307+50.00 - 311+24.00 LT. - 16



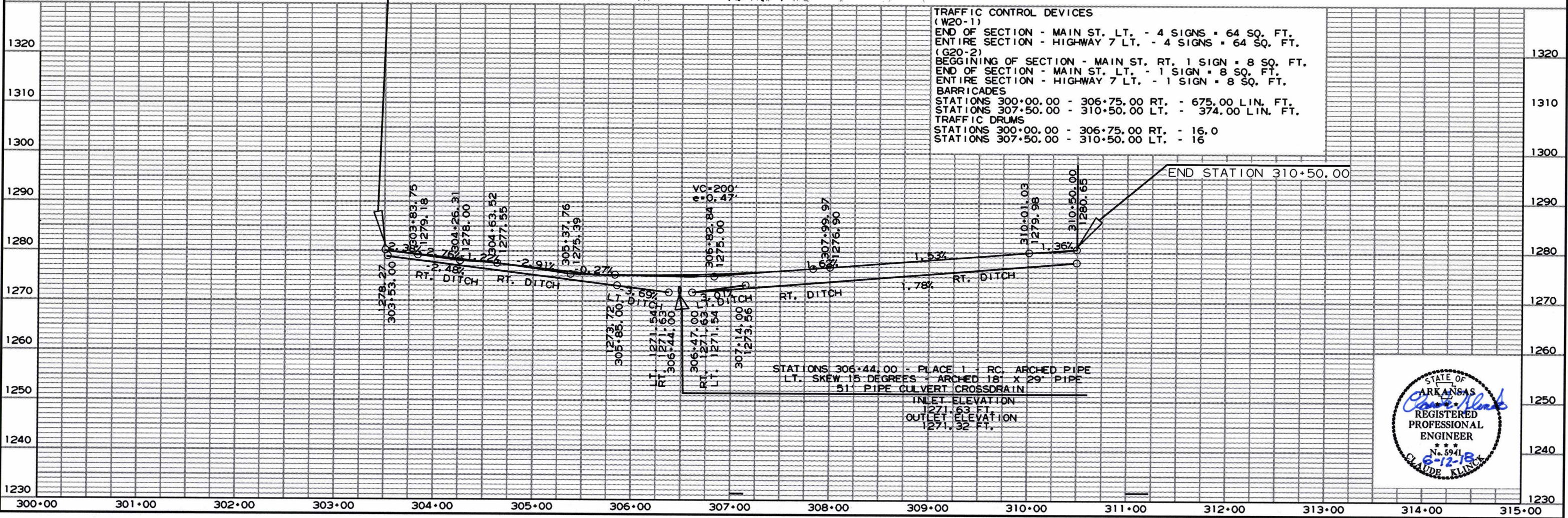


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			

JOB NO. C05003  
 PLAN & PROFILE STA. 300+00 - STA. 311+24  
 PLAN STA. 115+00 - STA. 125+10  
 PLAN STA. 203+00 - STA. 207+75



RIGHT TURN LANE



TRAFFIC CONTROL DEVICES  
 (W20-1)  
 END OF SECTION - MAIN ST. LT. - 4 SIGNS = 64 SQ. FT.  
 ENTIRE SECTION - HIGHWAY 7 LT. - 4 SIGNS = 64 SQ. FT.  
 (G20-2)  
 BEGINNING OF SECTION - MAIN ST. RT. 1 SIGN = 8 SQ. FT.  
 END OF SECTION - MAIN ST. LT. - 1 SIGN = 8 SQ. FT.  
 ENTIRE SECTION - HIGHWAY 7 LT. - 1 SIGN = 8 SQ. FT.  
 BARRICADES  
 STATIONS 300+00.00 - 306+75.00 RT. - 675.00 LIN. FT.  
 STATIONS 307+50.00 - 310+50.00 LT. - 374.00 LIN. FT.  
 TRAFFIC DRUMS  
 STATIONS 300+00.00 - 306+75.00 RT. - 16.0  
 STATIONS 307+50.00 - 310+50.00 LT. - 16





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			

PLAN & PROFILE STA. 305+00 - 311+24.00  
PLAN STA. 120+00 - 125+10  
PLAN STA. 205+00 - 210+26

STATION 205+01.00 - HIGHWAY 7  
RETAIN - IN PLACE 18" X 45.6"  
CM PIPE CULVERT CROSSDRAIN

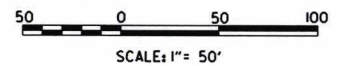
STATION 206+16 - HIGHWAY 7  
RETAIN - IN PLACE 15" X 22"  
RC. PIPE CULVERT LT. SIDE DRAIN

STATIONS 307+83.00 - 310+50.00  
RIGHT TURN LANE WILL BE KNOTCHED TO  
STATIONS 206+89.00 - 209+56.00 ON HIGHWAY 7  
ELEVATIONS 1276.89' - 1280.65'

END STATION 310+50.00  
END SUPER ELEVATION STATION 310+50.00

STATION 306+44.00 - PLACE  
LT. 15 DEGREE SKEW - 1 - 29"x 18"  
R.C. ARCHED - 51" PIPE CULVERT  
CROSSDRAIN

RIGHT TURN LANE



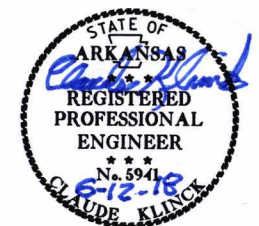
#### TRAFFIC CONTROL DEVICES

(W20-1)  
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ENTIRE SECTION - HIGHWAY 7 LT. - 4 SIGNS = 64 SQ. FT.  
(G20-2)  
BEGINNING OF SECTION - MAIN ST. RT. 1 SIGN = 8 SQ. FT.  
END OF SECTION - MAIN ST. LT. - 1 SIGN = 8 SQ. FT.  
ENTIRE SECTION - HIGHWAY 7 LT. - 1 SIGN = 8 SQ. FT.  
BARRICADES  
STATIONS 300+00.00 - 306+75.00 RT. - 675.00 LIN. FT.  
STATIONS 307+50.00 - 310+50.00 LT. - 374.00 LIN. FT.  
TRAFFIC DRUMS  
STATIONS 300+00.00 - 306+75.00 RT. - 16.0  
STATIONS 307+50.00 - 310+50.00 LT. - 16

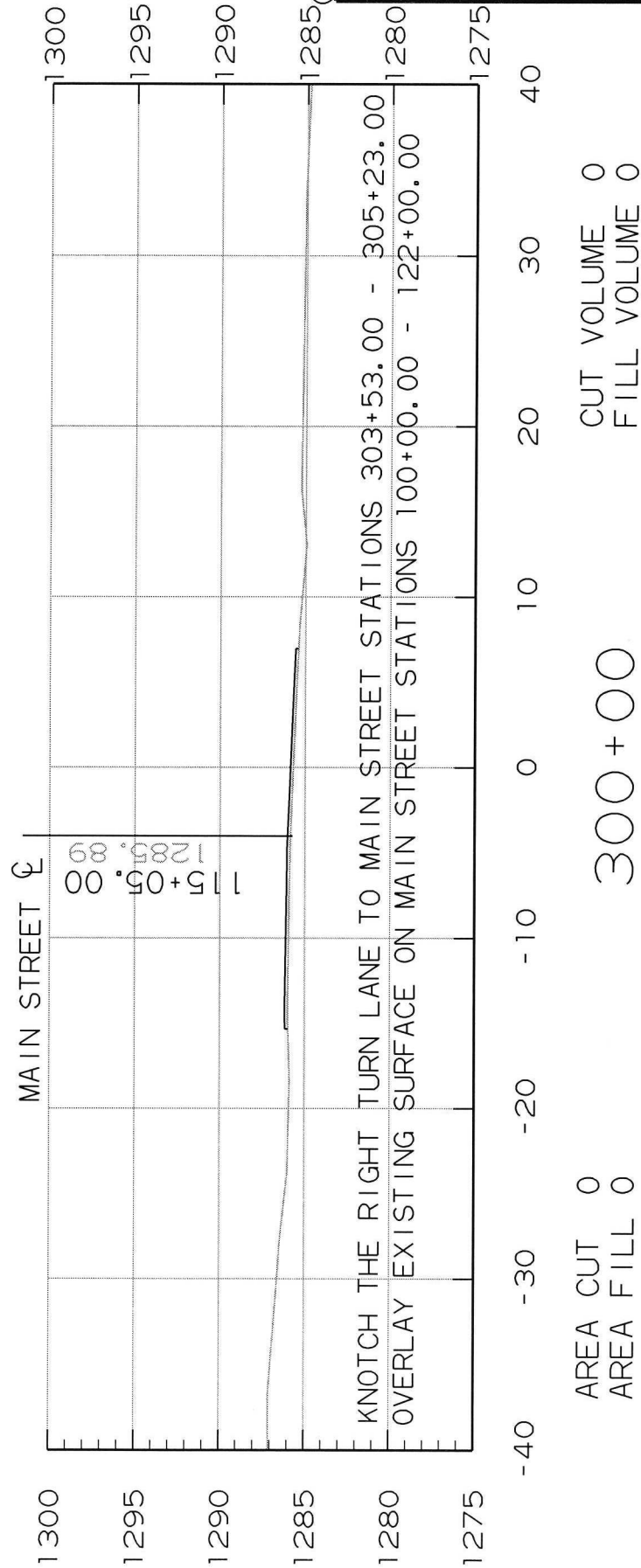
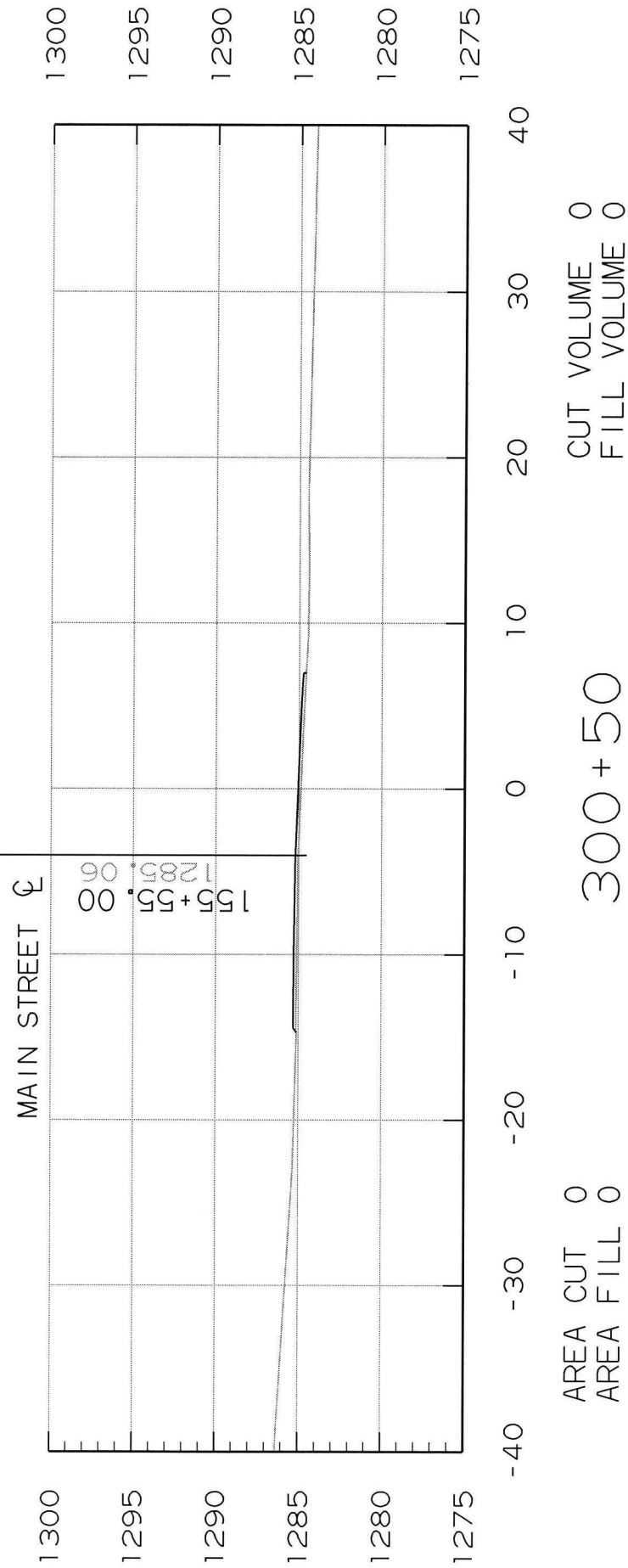
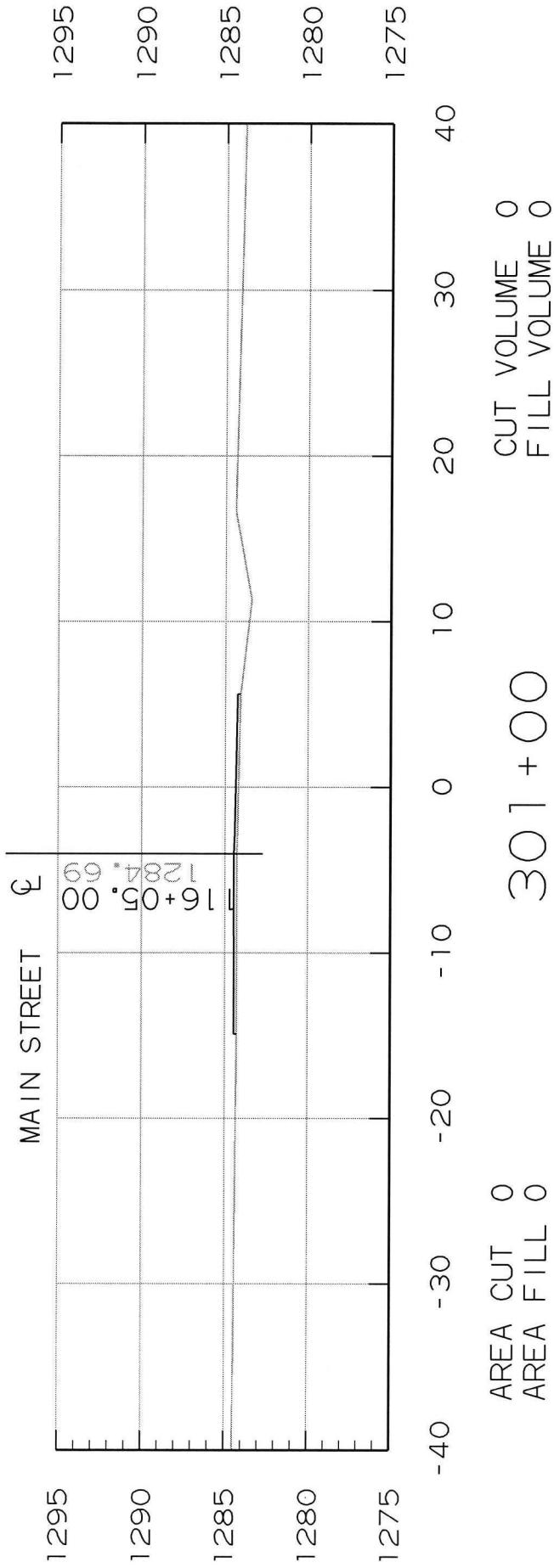
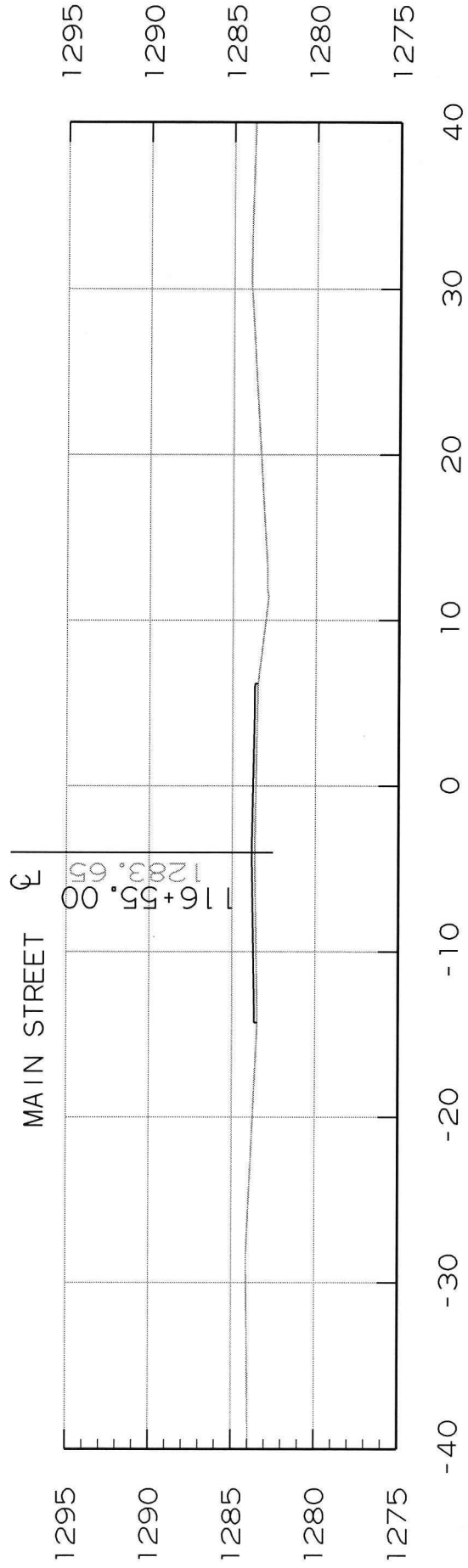
END STATION 310+50.00

STATIONS 306+44.00 - PLACE 1 - RC. ARCHED PIPE  
LT. SKEW 15 DEGREES - ARCHED 18" X 29" PIPE  
51" PIPE CULVERT CROSSDRAIN

INLET ELEVATION  
1271.63 FT.  
OUTLET ELEVATION  
1271.32 FT.



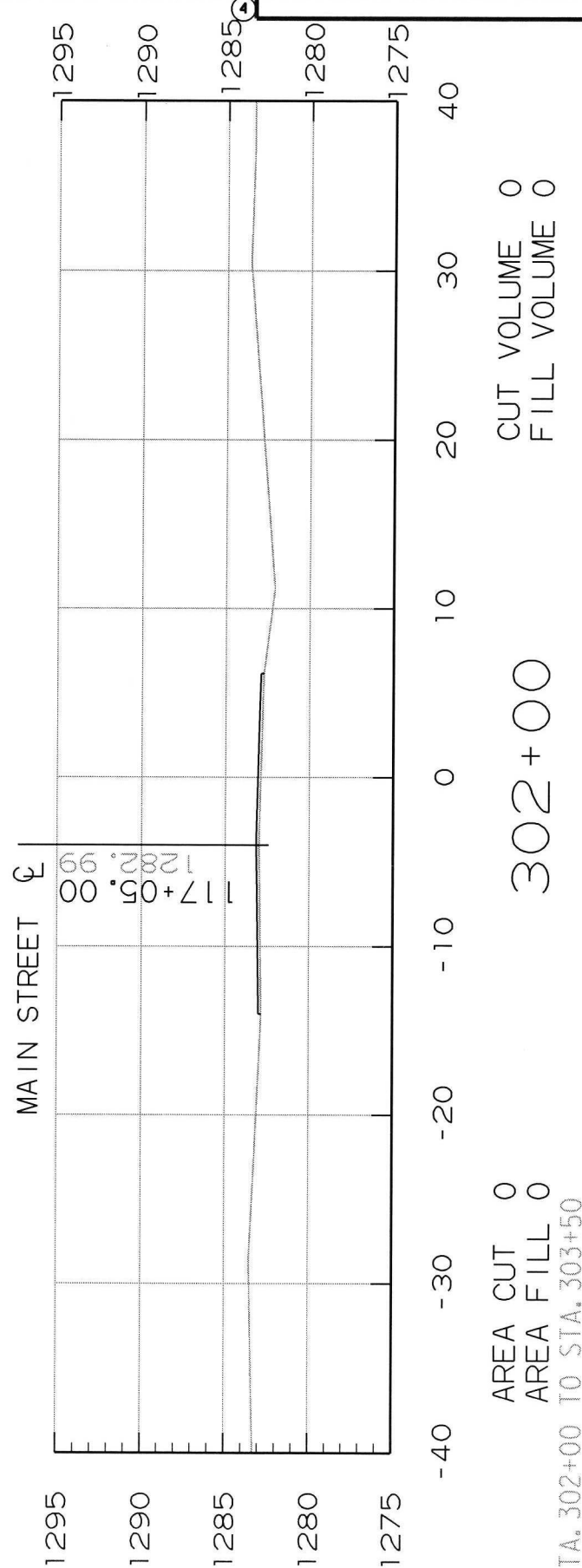
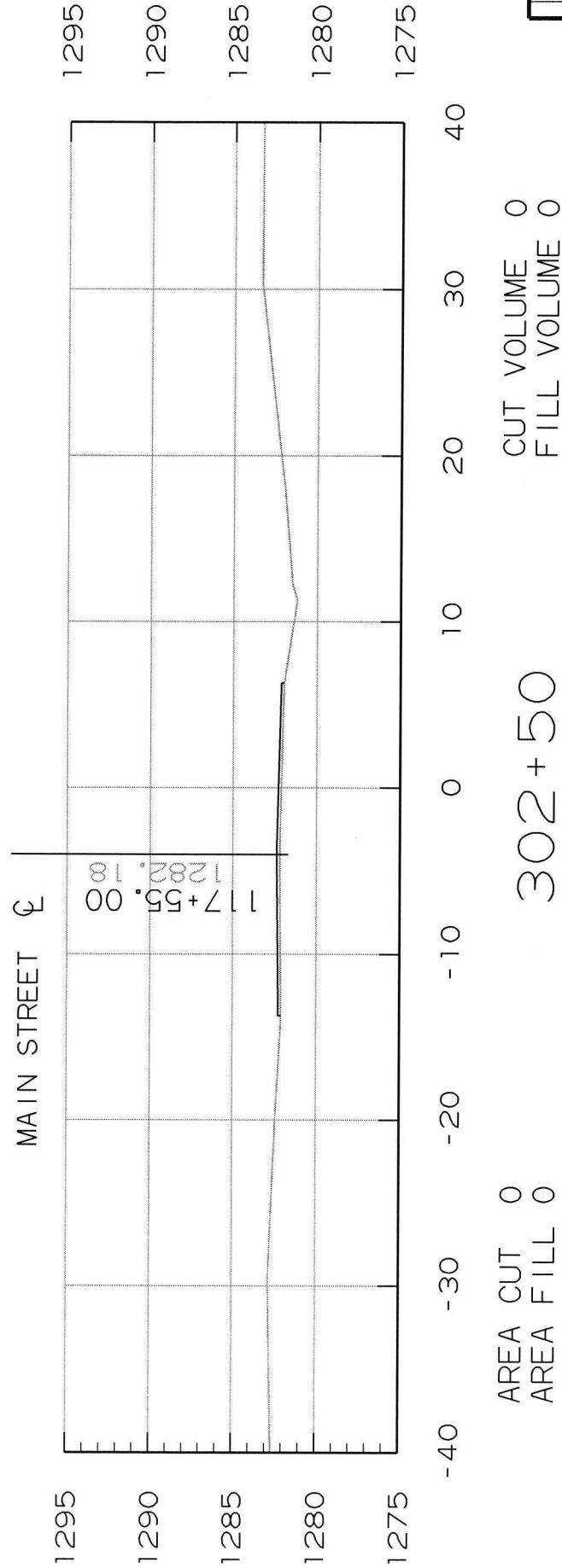
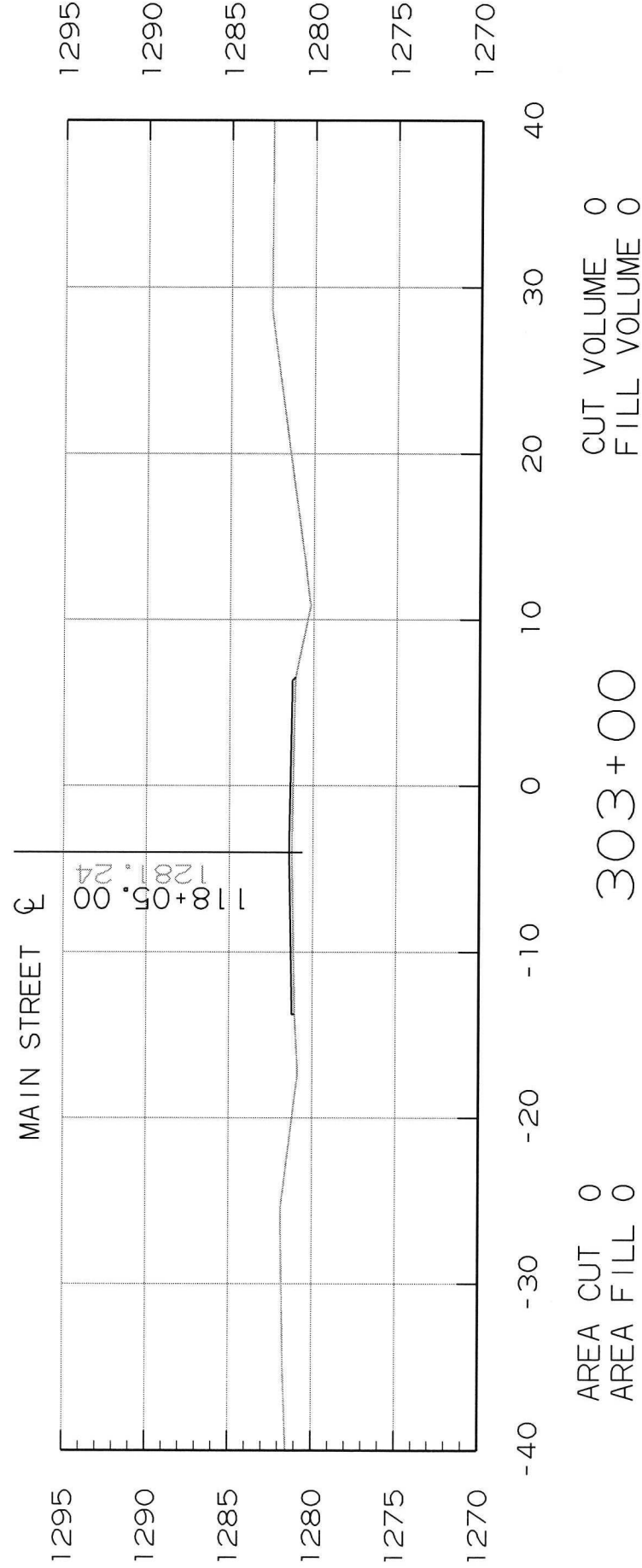
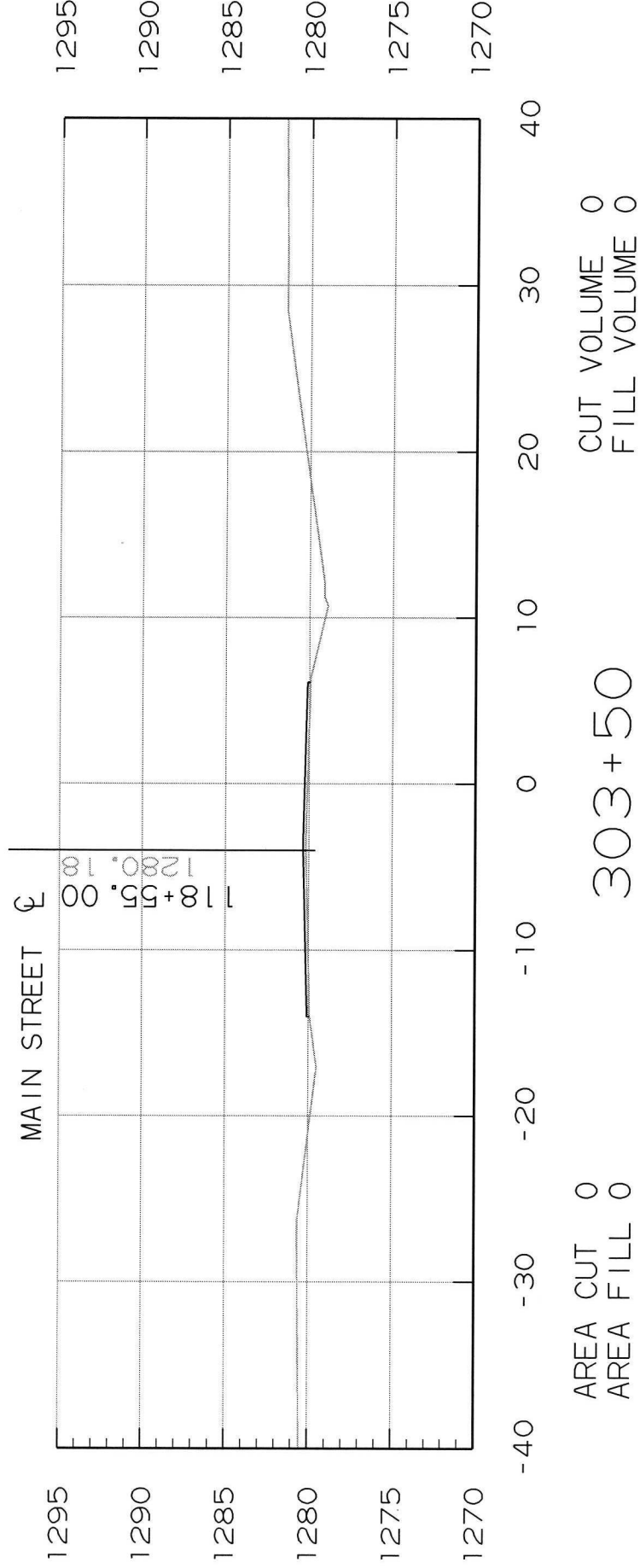




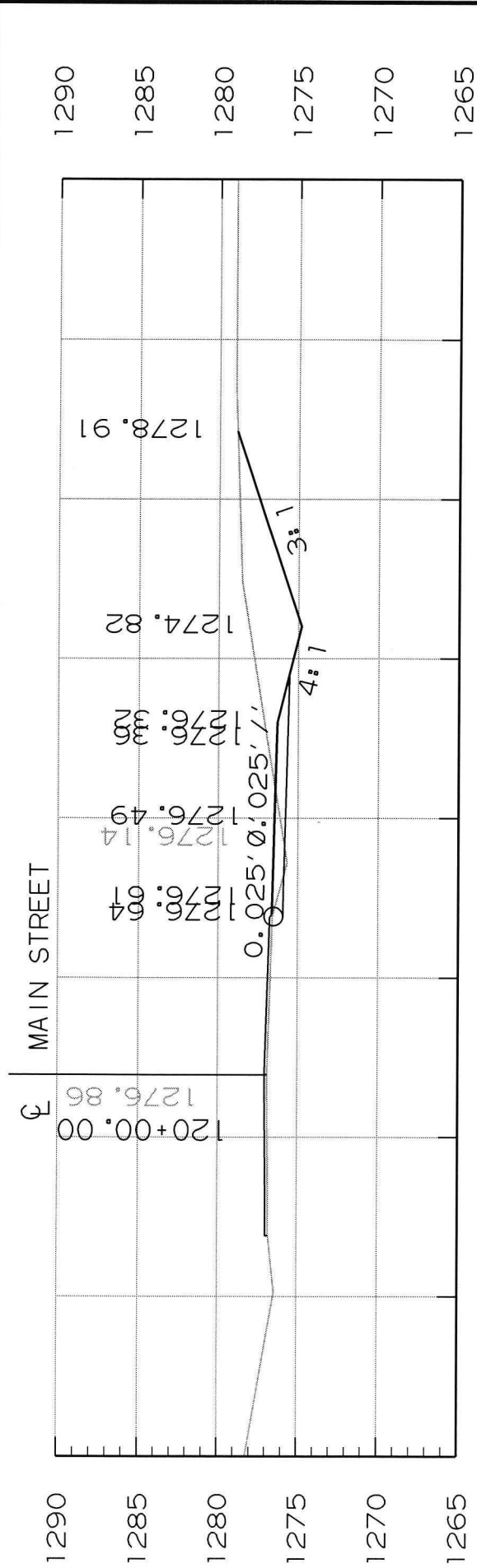
STA. 300+00 TO STA. 301+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	20	26

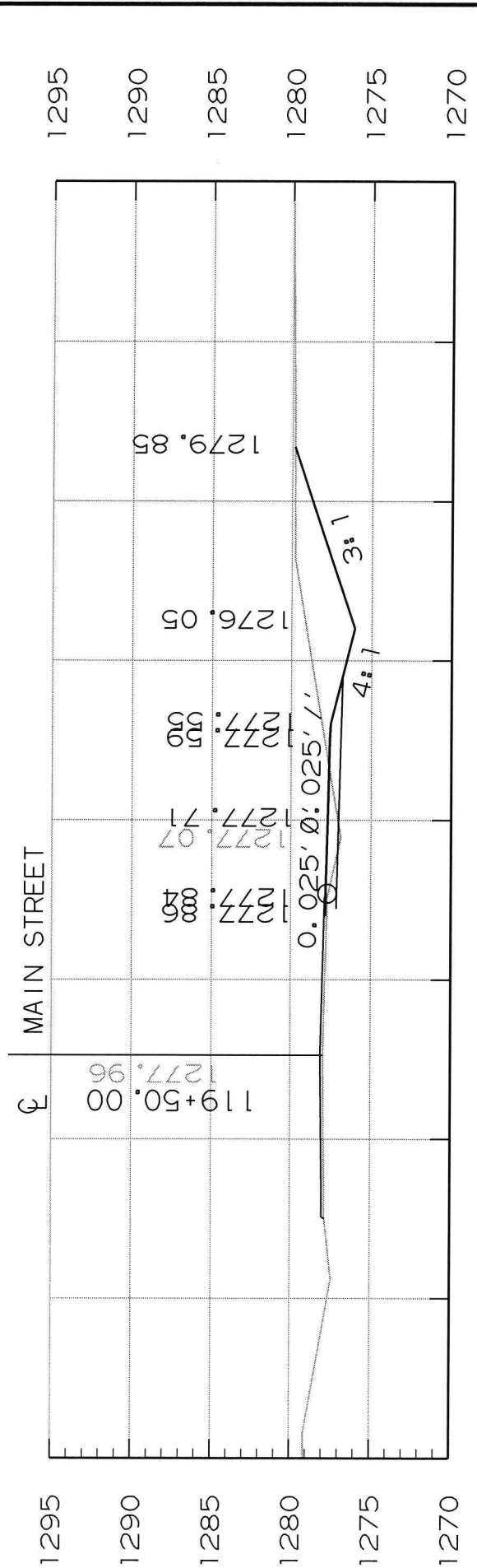




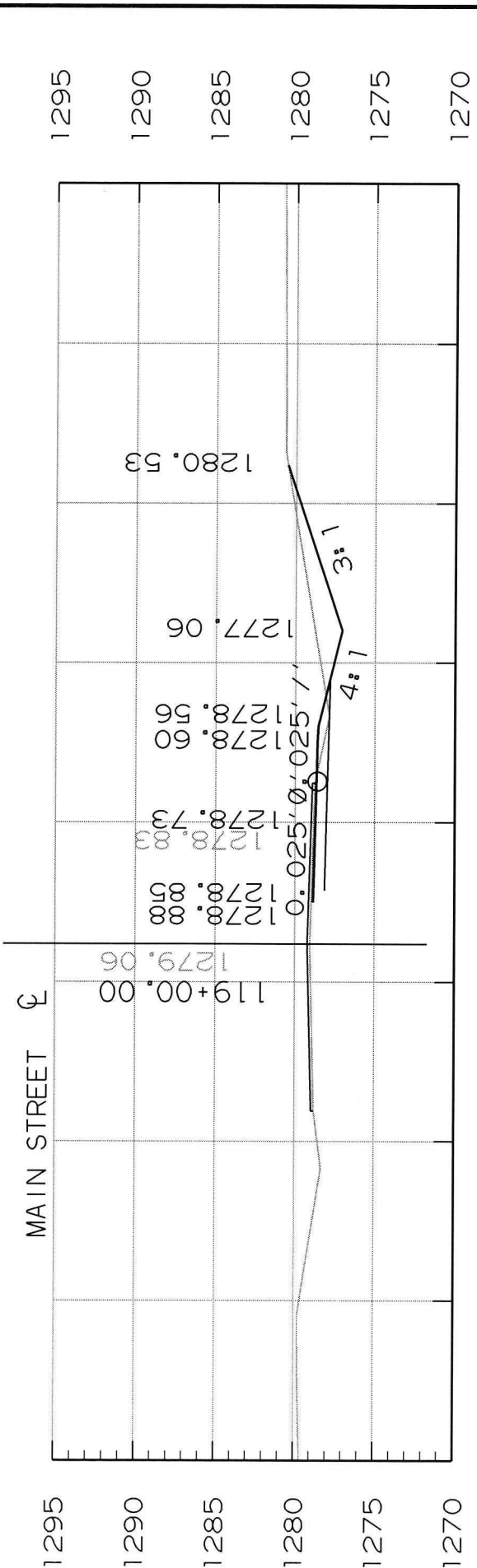
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				6	ARK.		21	26
				JOB NO.	C05003			



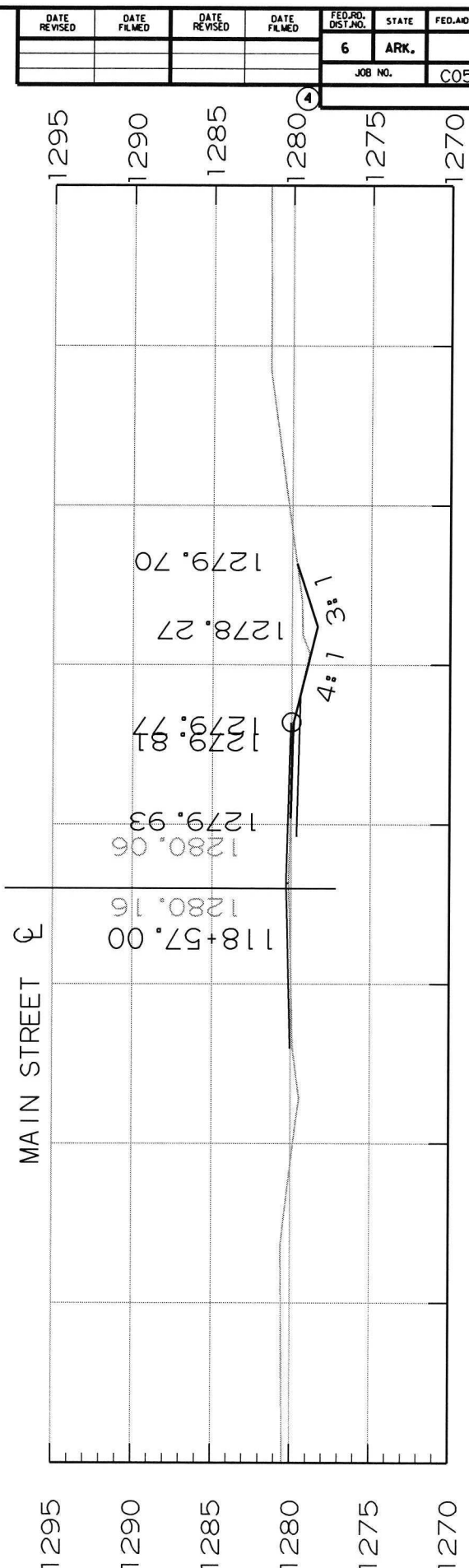
AREA CUT 36  
AREA FILL 4  
305+00  
CUT VOLUME 62  
FILL VOLUME 7



AREA CUT 31  
AREA FILL 4  
304+50  
CUT VOLUME 40  
FILL VOLUME 6



AREA CUT 12  
AREA FILL 2  
304+00  
CUT VOLUME 11  
FILL VOLUME 2



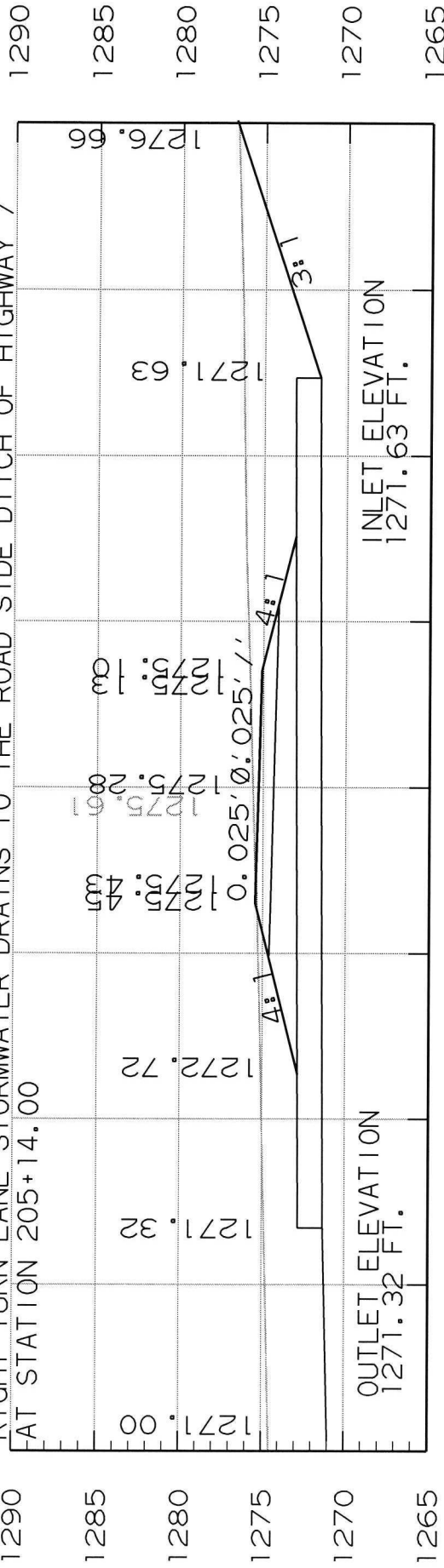
BEGIN RIGHT TURN LANE CONSTRUCTION STATIONS 303+53.00 & 118+57.00  
AREA CUT 0  
AREA FILL 0  
303+52  
CUT VOLUME 0  
FILL VOLUME 0

STA. 303+52 TO STA. 305+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	22	26

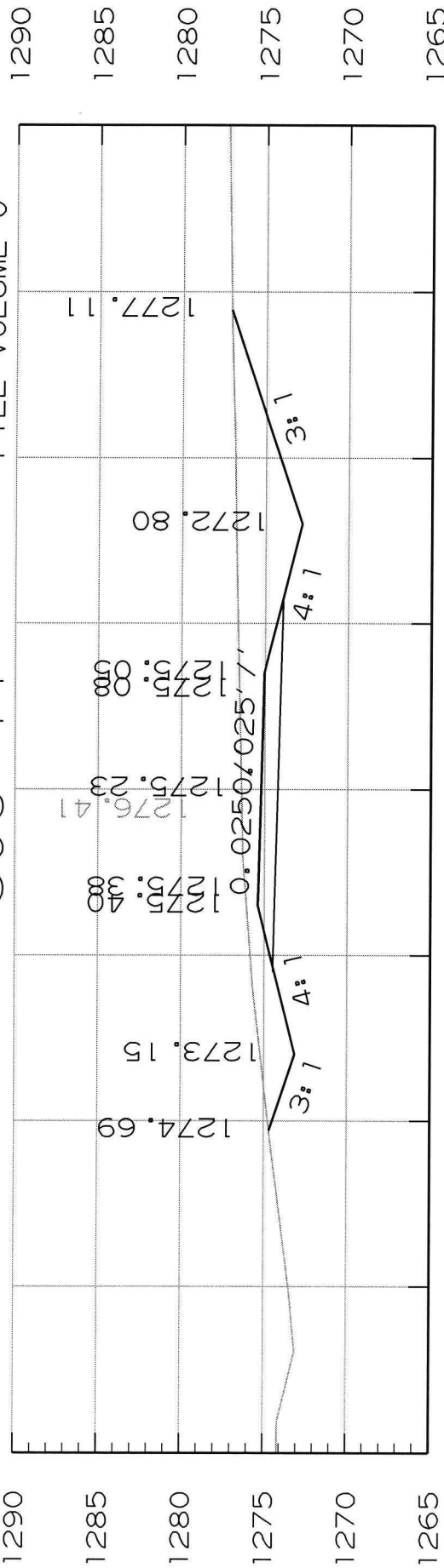


CROSS DRAIN PIPE OR PIPES AT STATION 306+44.00  
RIGHT TURN LANE STORMWATER DRAINS TO THE ROAD SIDE DITCH OF HIGHWAY 7  
AT STATION 205+14.00

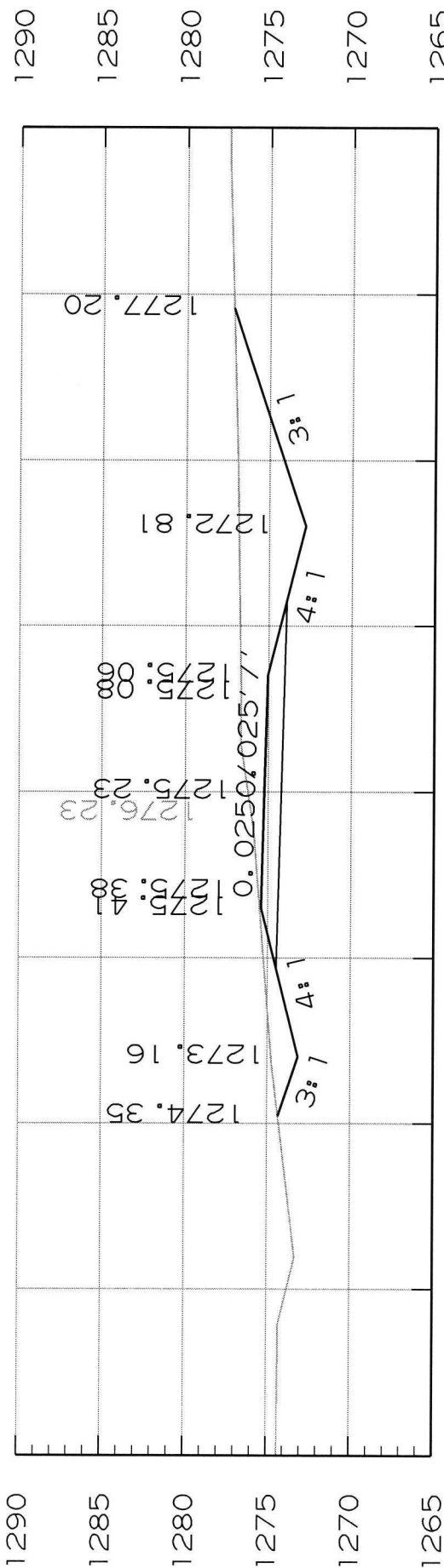


STATIONS 306+44.00 & 306+49.00 PLACE 2 - 21" X 15" C.M. ARCHED PIPE AT A LEFT 15 DEGREE SKEW  
OR  
STATION 306+44.00 PLACE A 1 - 29" X 18" R.C. ARCHED PIPE AT A LEFT 15 DEGREE SKEW

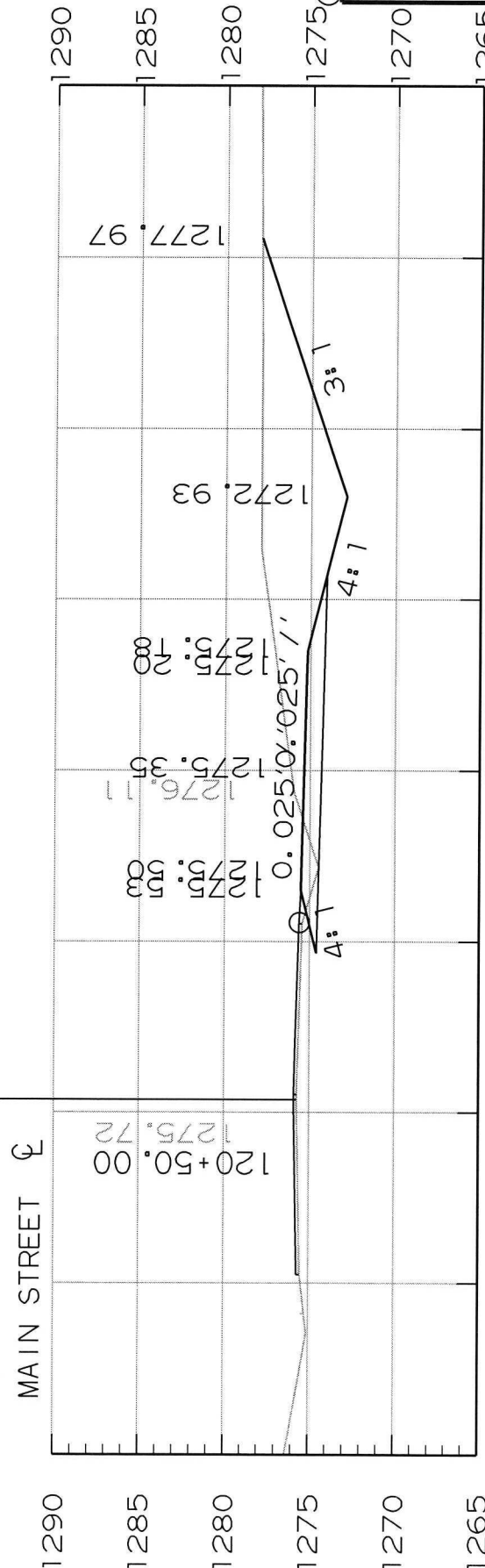
AREA CUT 352  
AREA FILL 0  
306+44  
CUT VOLUME 312  
FILL VOLUME 0



AREA CUT 103  
AREA FILL 0  
306+07  
CUT VOLUME 26  
FILL VOLUME 0



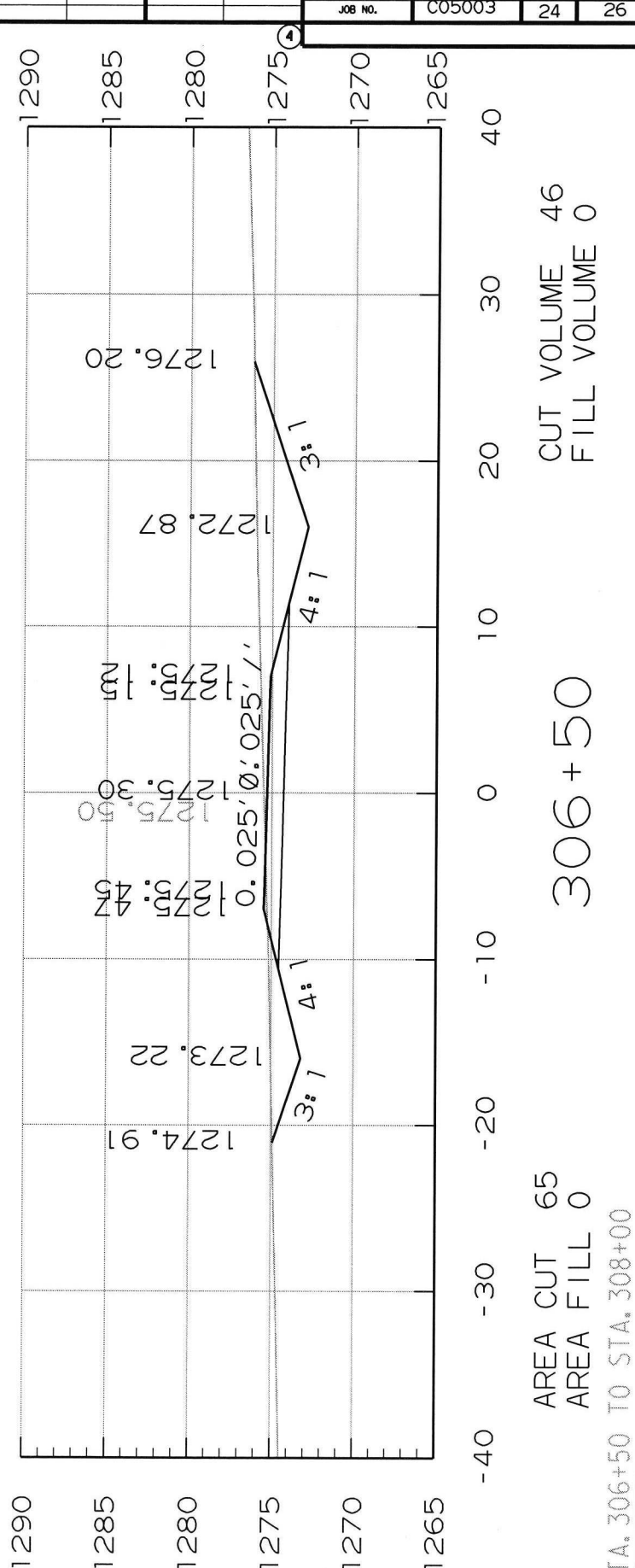
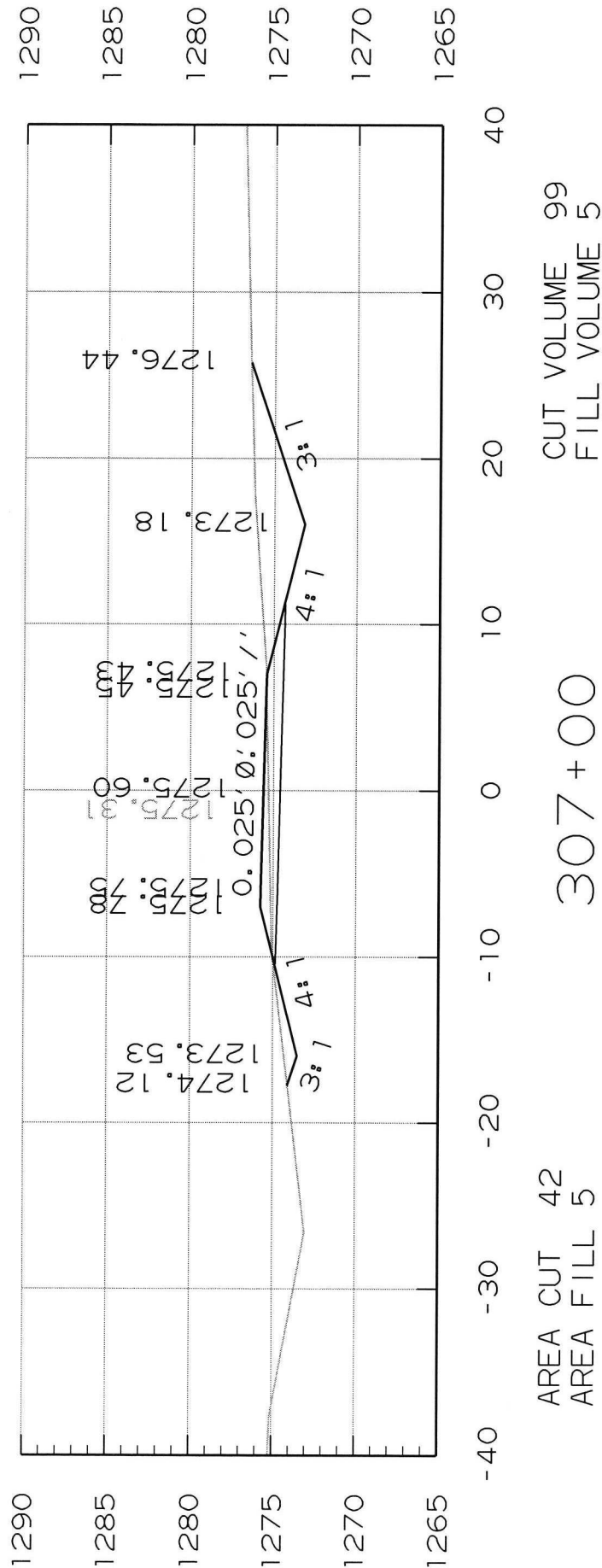
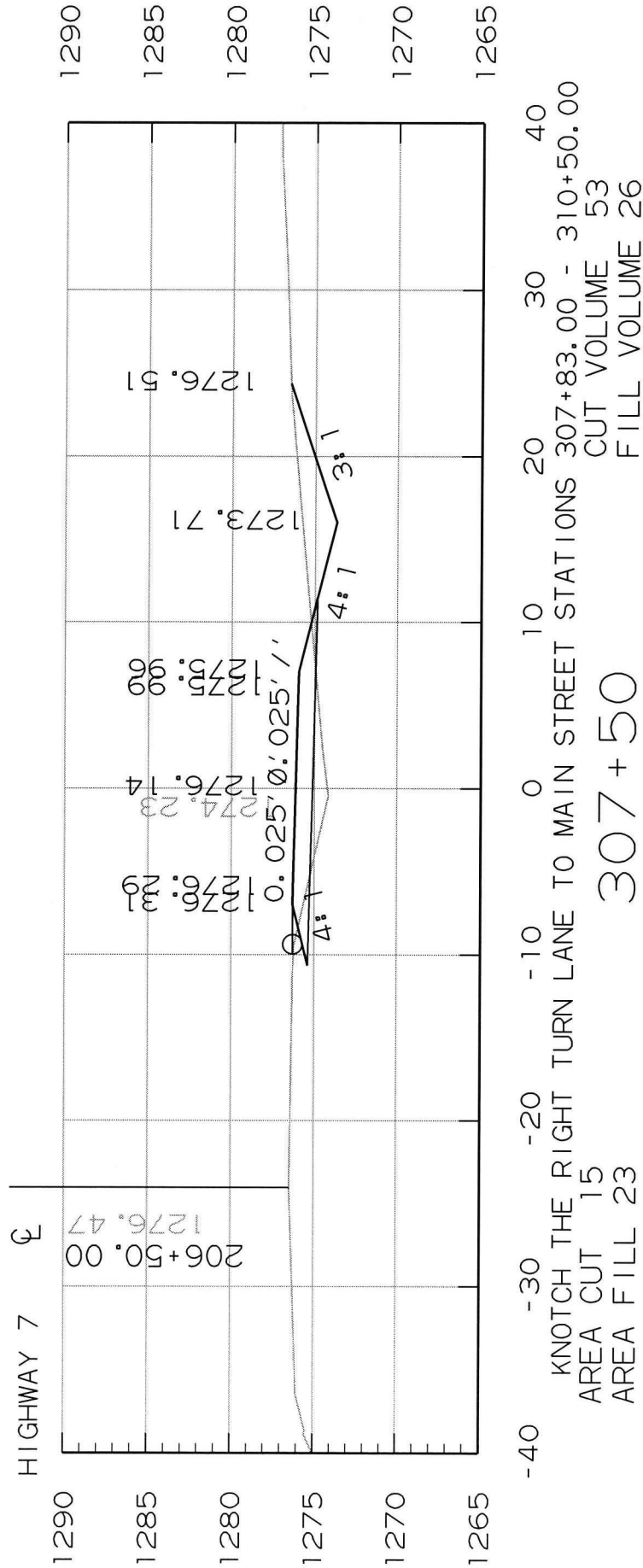
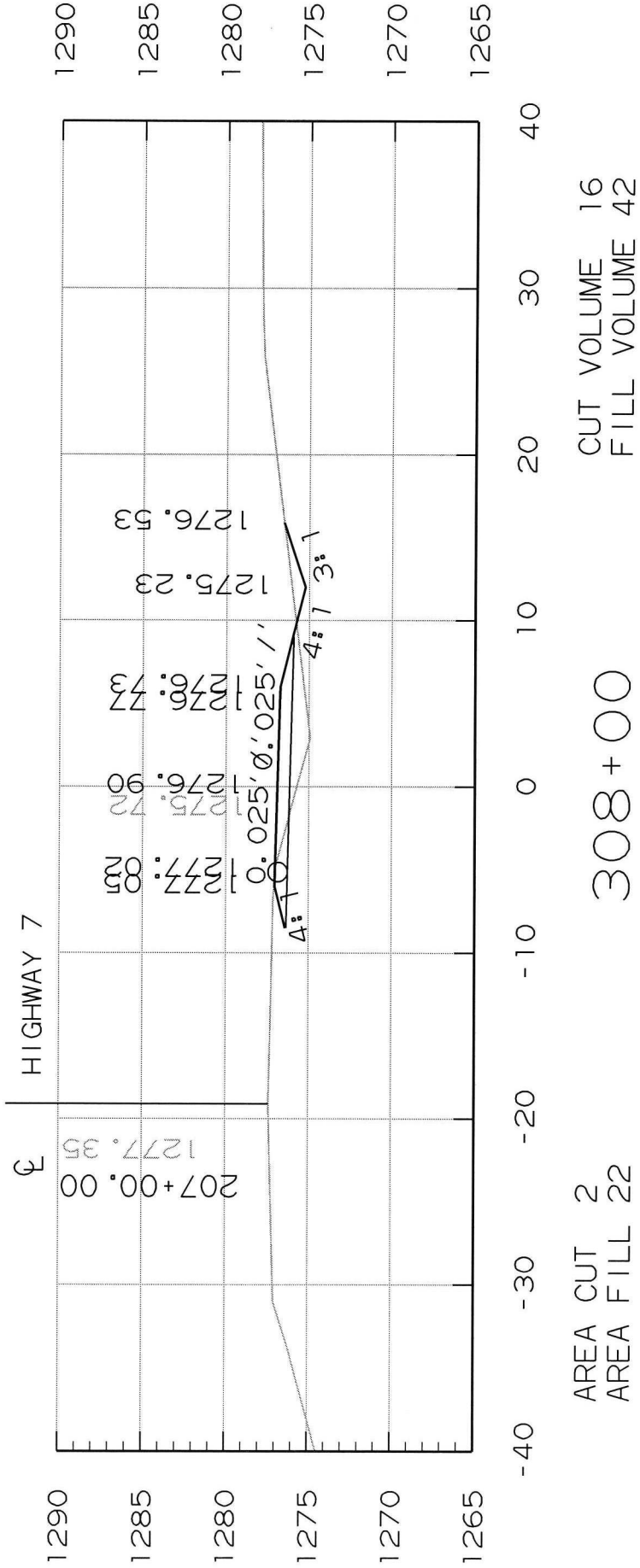
AREA CUT 94  
AREA FILL 0  
306+00  
CUT VOLUME 176  
FILL VOLUME 3



AREA CUT 96  
AREA FILL 3  
305+50  
CUT VOLUME 122  
FILL VOLUME 6

STA. 305+50 TO STA. 306+44

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	23	26

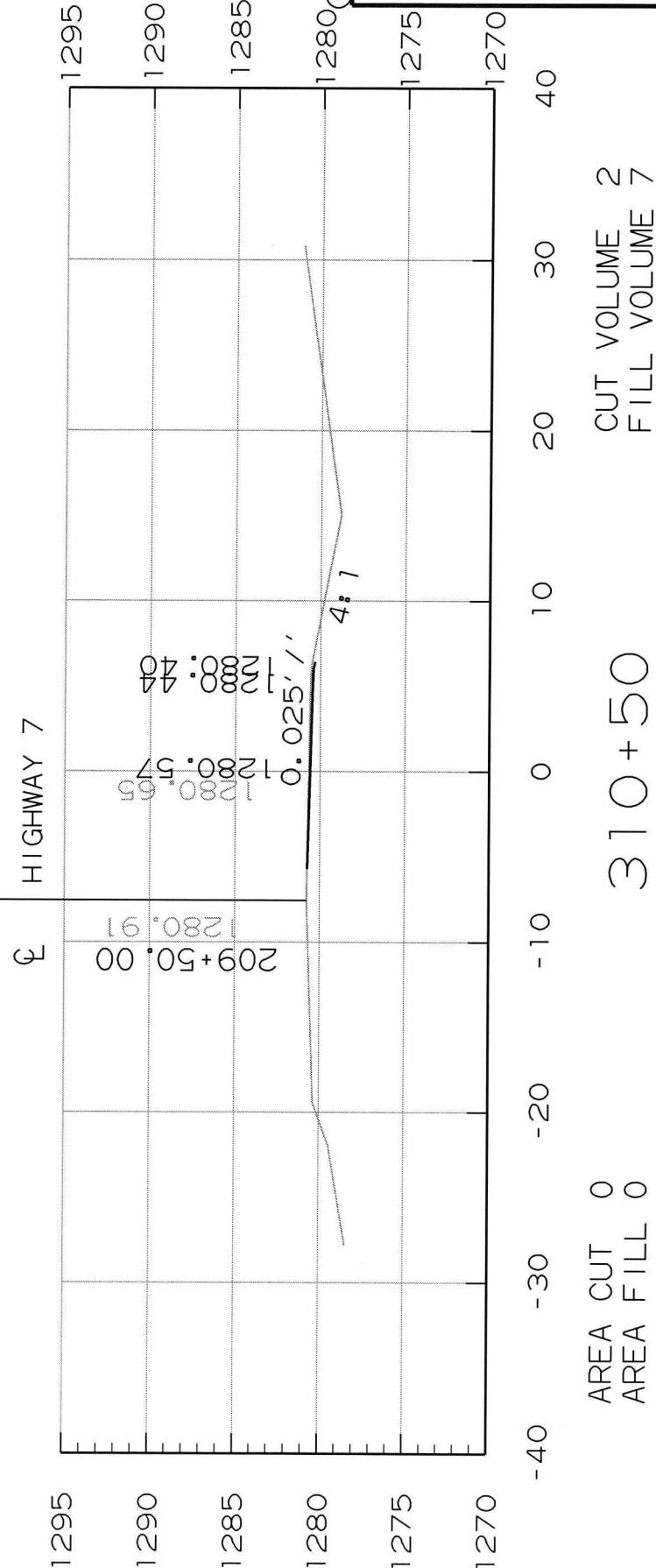
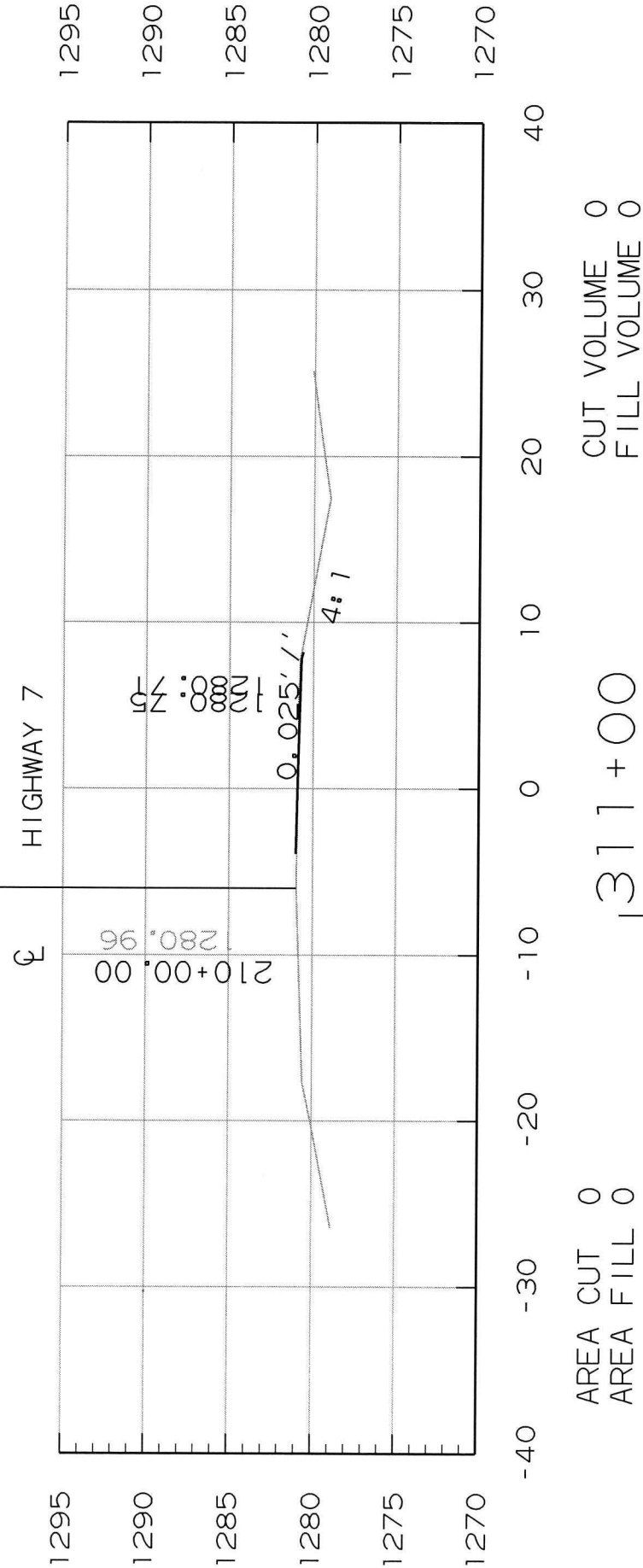
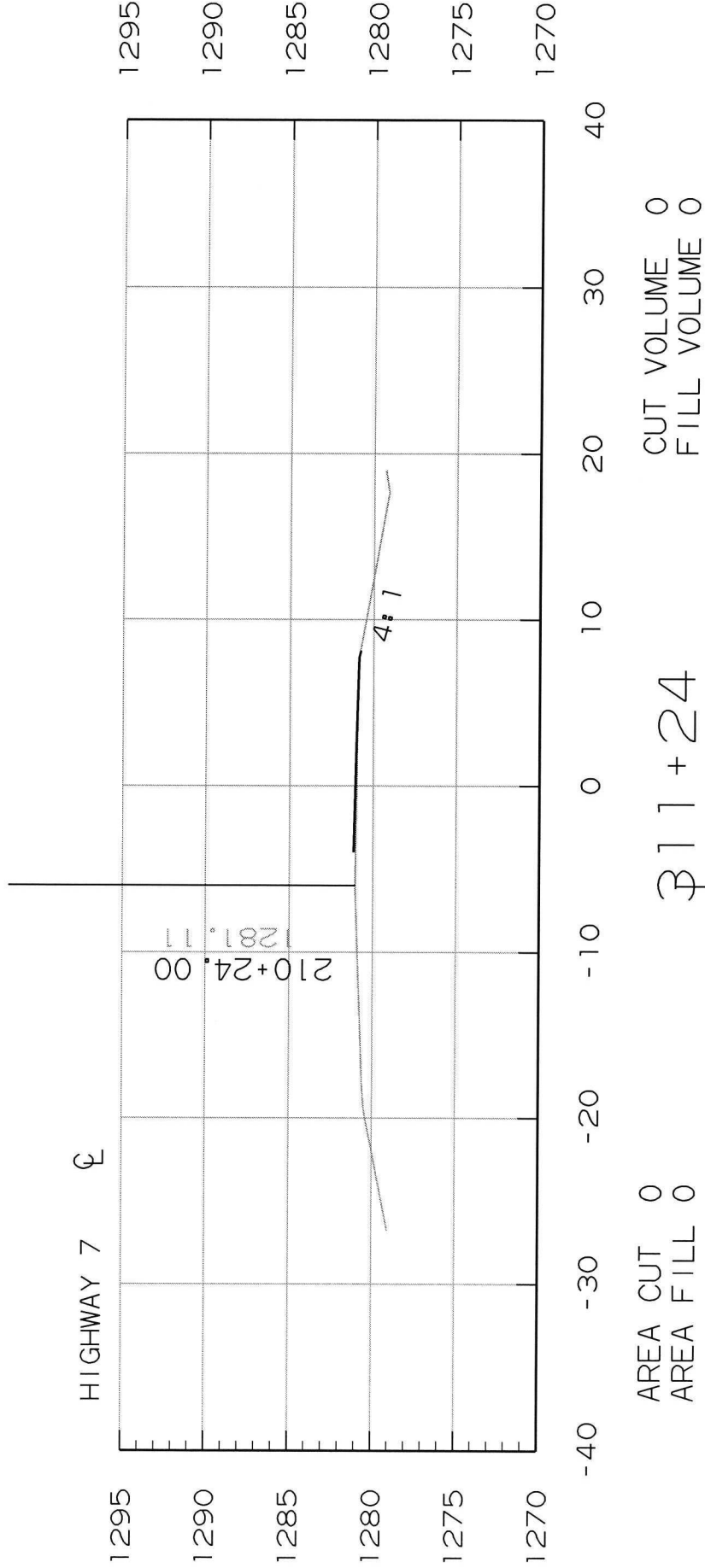


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	24	26





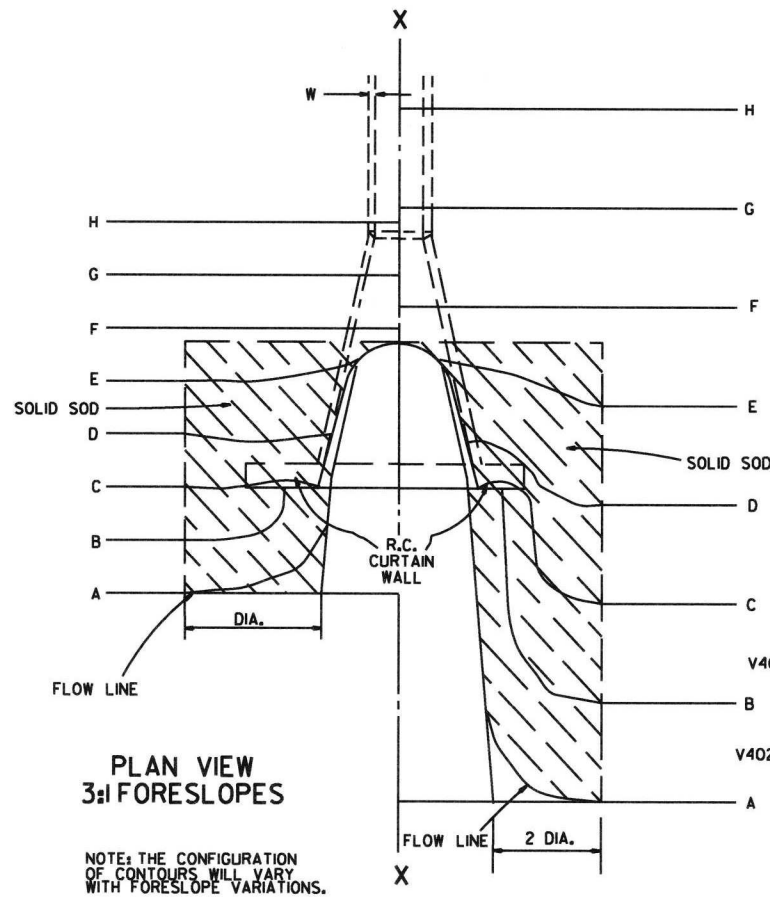
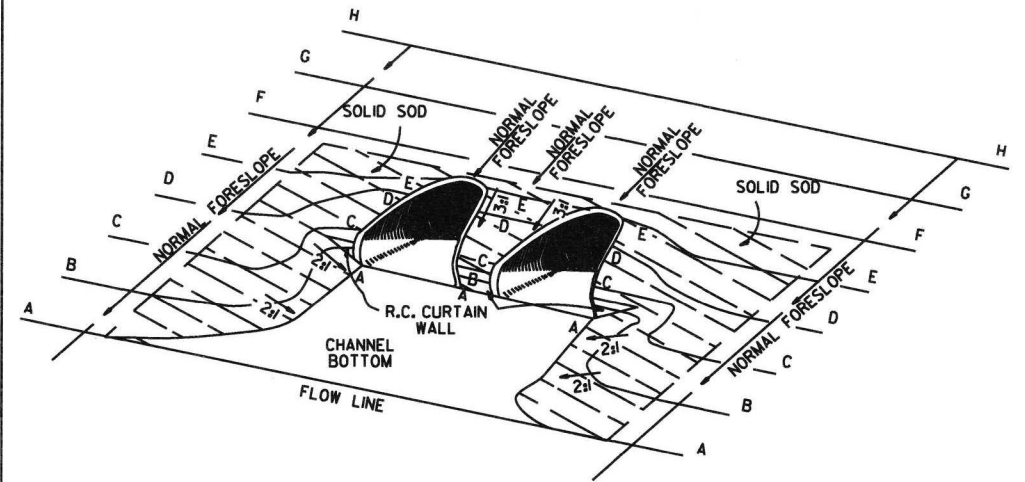
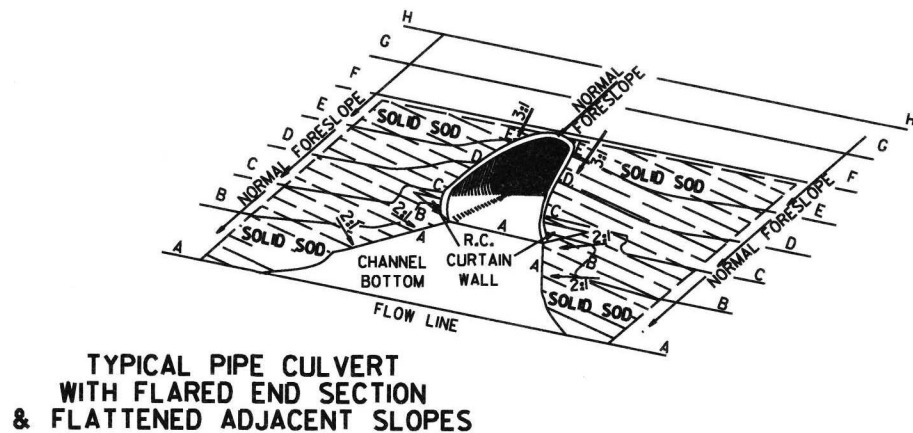
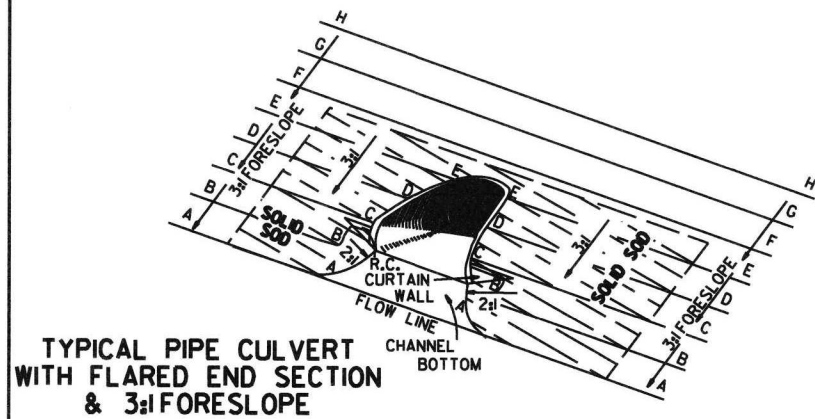




STA. 310+50 TO STA. 311+24

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		C05003	26	26



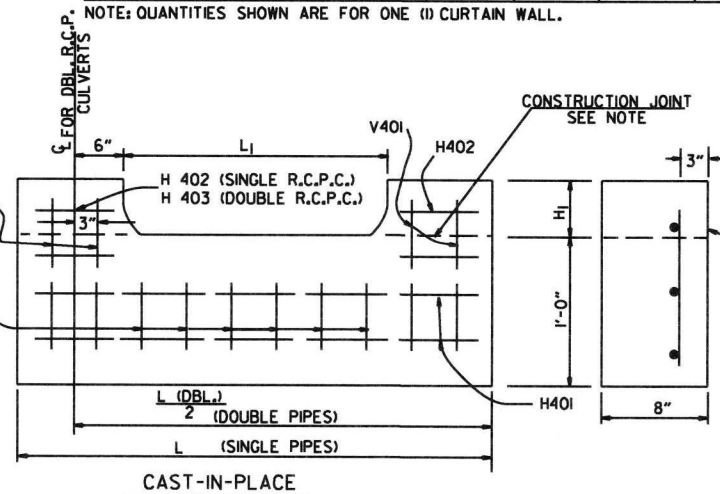


PLAN VIEW  
FLATTENED FORESLOPES

### R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

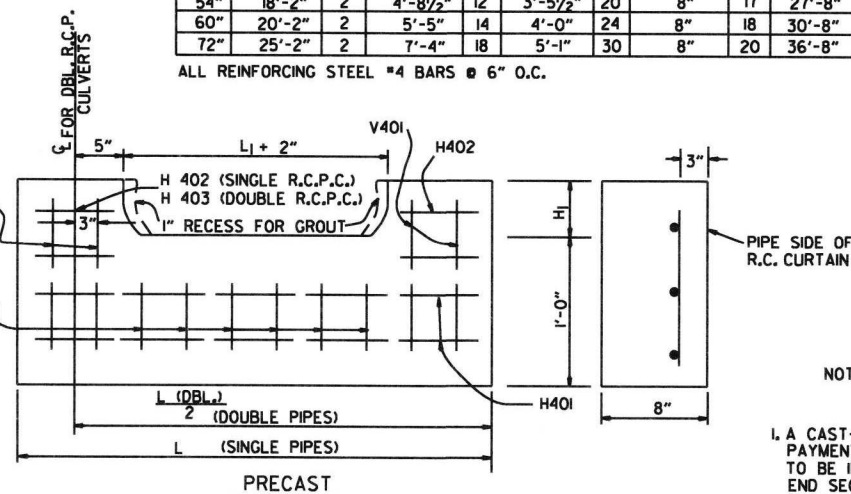
PIPE DIA.	H <sub>1</sub>	L <sub>1</sub>	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.

### R.C. CURTAIN WALL DETAILS



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

### REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT							
	H401		H402		V401		V402		H401		H402		H403		V401	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11 1/2"	4	1'-7 1/2"	8	8"	8	12'-2"	2	1'-11 1/2"	4	8"	2	1'-7 1/2"	10
24"	9'-2"	2	2'-2"	4	1'-8 1/2"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8 1/2"	12
30"	10'-8"	2	2'-4 1/2"	4	1'-11 1/2"	10	8"	12	17'-8"	2	2'-4 1/2"	4	8"	2	1'-11 1/2"	14
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14
42"	15'-2"	2	3'-9 1/2"	8	2'-9 1/2"	16	8"	15	23'-8"	2	3'-9 1/2"	8	8"	4	2'-9 1/2"	18
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-8 1/2"	12	8"	6	3'-5 1/2"	22
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

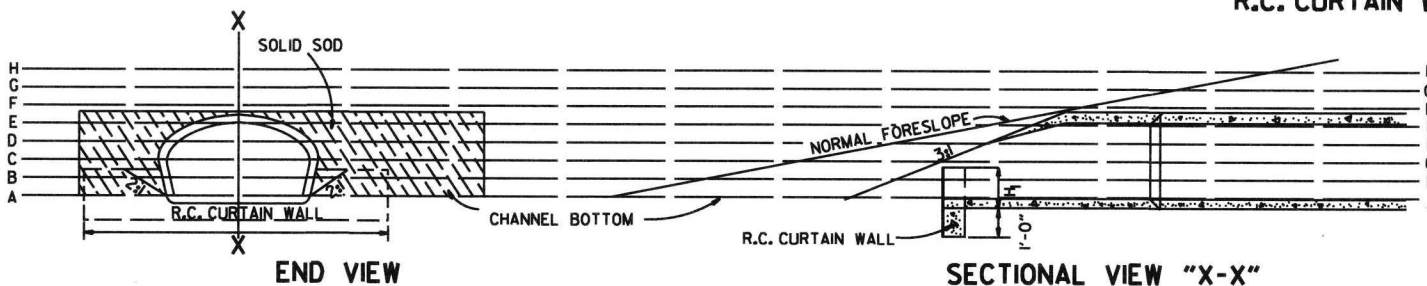
### SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	12	12	6	8	13
24"	8	12	16	9	13	20
30"	13	18	29	14	19	28
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

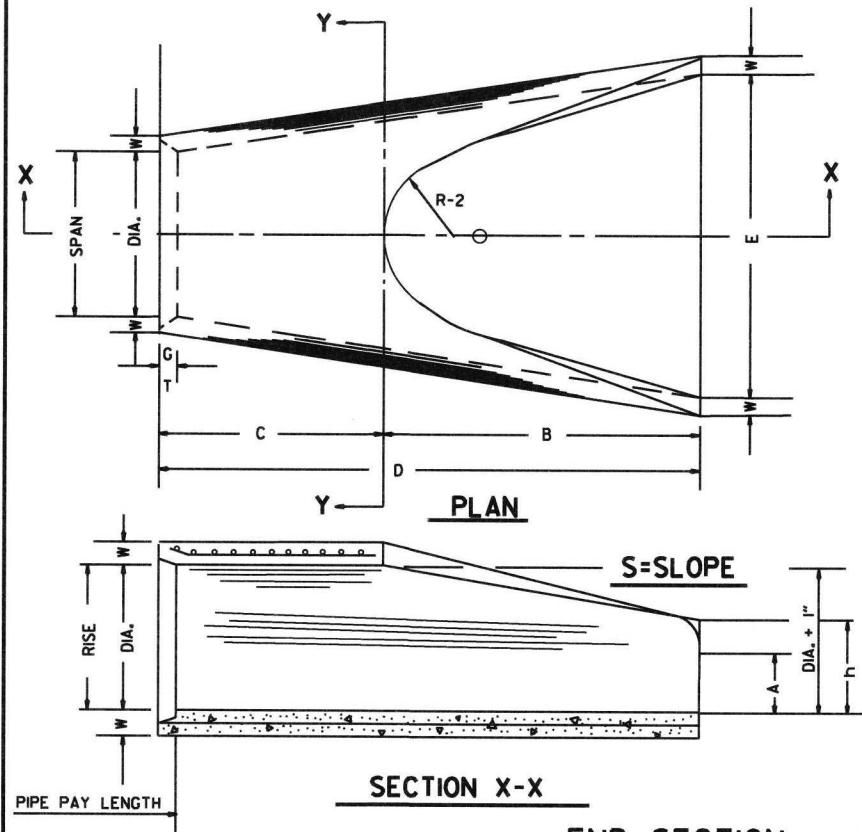
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- GENERAL NOTES
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
  2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
  3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
  4. WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.

10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING		
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1

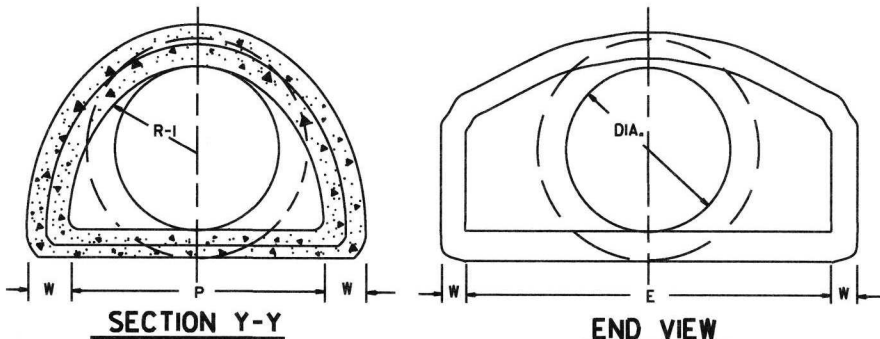






END SECTION  
FOR REINFORCED CONCRETE PIPE CULVERTS

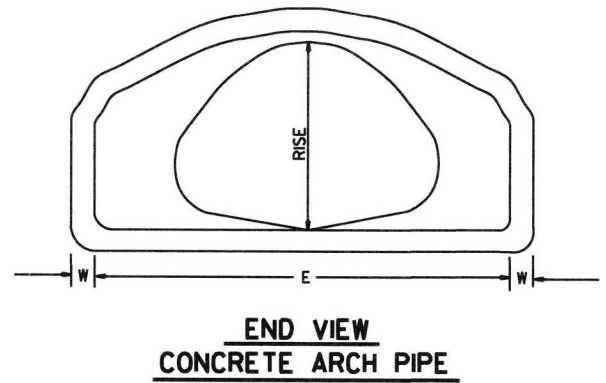
TABLE OF DIMENSIONS															
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h	
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3 1/2"	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"	
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3 1/2"	25"	33 3/4"	16 3/4"	14"	2 1/2"	1600	1'-1 1/2"	
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3 1/2"	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"	
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 1/4"	6'-0"	3 1/2"	37"	47 1/4"	24 1/4"	20"	3 1/2"	4100	1'-8"	
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3 1/2"	43"	53 1/2"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"	
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3 1/2"	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"	
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3 1/2"	55"	65 1/2"	33 1/4"	24"	4"	8750	2'-10 1/2"	
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3 1/2"	61"	72 1/2"	36 1/4"	24"	4"	9270	3'-5"	
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3 1/2"	73"	77 3/4"	38 3/4"	24"	5"	13250	4'-6"	



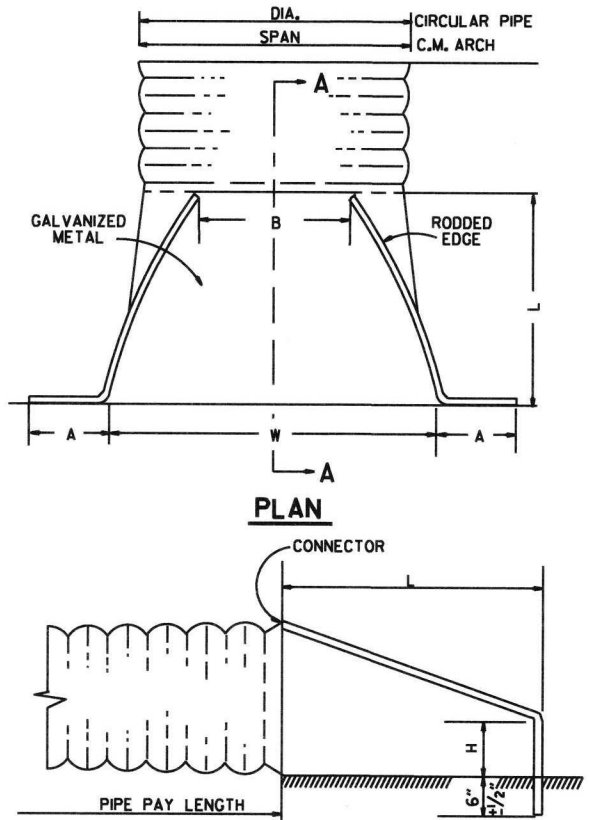
NOTE: TONGUE END ON UPSTREAM SECTION  
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE															
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL											
	INCHES														
15	18	18	II	II	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2"	
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/4"	13"	2 1/2"	2 1/2"	
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/4"	14"	2 1/2"	2 1/2"	
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 3/4"	15"	2 1/2"	2 1/2"	
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/4"	20"	3"	2 1/2"	
36	43 3/4	44	26 3/4	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 3/4"	22"	3 1/2"	2 1/2"	
42	51 1/4	51	31 3/4	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2"	
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 1/4"	7'-10"	70 3/4"	24"	4 1/4"	2 1/2"	
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/4"	24"	4 3/4"	2 1/2"	
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 3/4"	24"	5"	2 1/2"	

\* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN  $\pm 2$  PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW  
CONCRETE ARCH PIPE



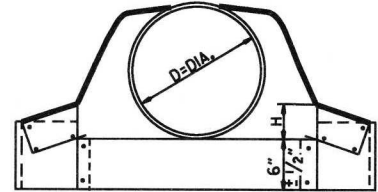
SECTION A-A

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

CIRCULAR PIPE

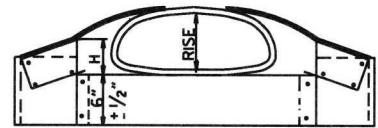
D. DIA.	GAUGE	A	B. MAX.	H	L	W	S
INCHES							
12	16	6	6	6	21	24	2 1/2"
15	16	7	8	6	26	30	2 1/2"
18	16	8	10	6	31	36	2 1/2"
21	16	9	12	6	36	42	2 1/2"
24	16	10	13	6	41	48	2 1/2"
30	14	12	16	8	51	60	2 1/2"
36	14	14	19	9	60	72	2 1/2"
42	12	16	22	11	69	84	2 1/2"
48	12	18	27	12	78	90	2 1/2"
54	12	18	30	12	84	102	2 1/2"
60	12	18	33	12	87	114	1 3/4"
66	12	18	36	12	87	120	1 1/2"
72	12	18	39	12	87	126	1 1/3"



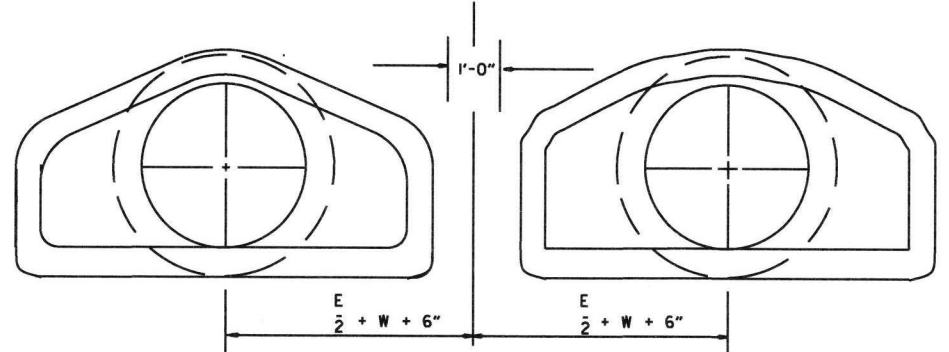
CIRCULAR PIPE

C.M. ARCH PIPE

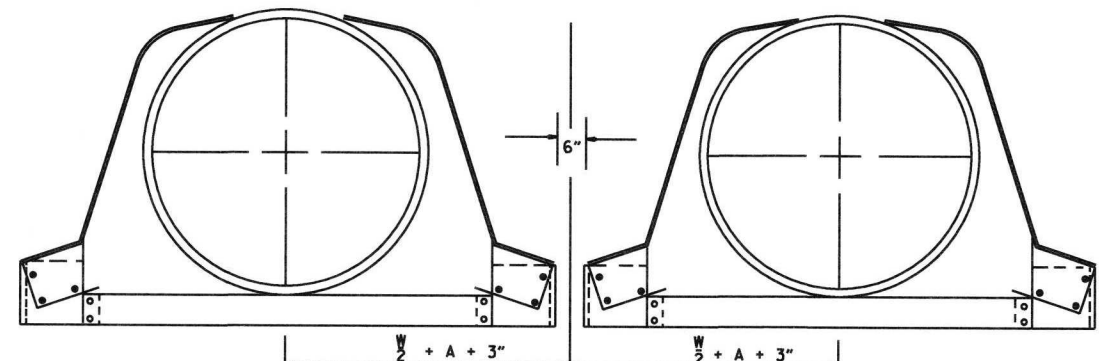
EQUIV. DIA.	SPAN	RISE	A	B. MAX.	H	L	W	S	GAUGE
INCHES									
15"	17	13	7	9	6	19	30	2 1/2"	16
18"	21	15	7	10	6	23	36	2 1/2"	16
21"	24	18	8	12	6	28	42	2 1/2"	16
24"	28	20	9	14	6	32	48	2 1/2"	16
30"	35	24	10	16	6	39	60	2 1/2"	14
36"	42	29	12	18	8	46	75	2 1/2"	14
42"	49	33	13	21	9	53	85	2 1/2"	12
48"	57	38	18	26	12	63	90	2 1/2"	12
54"	64	43	18	30	12	70	102	2 1/2"	12
60"	71	47	18	33	12	77	114	2 1/4"	12



C.M. ARCH PIPE



MULTIPLE R.C. PIPE CULVERTS



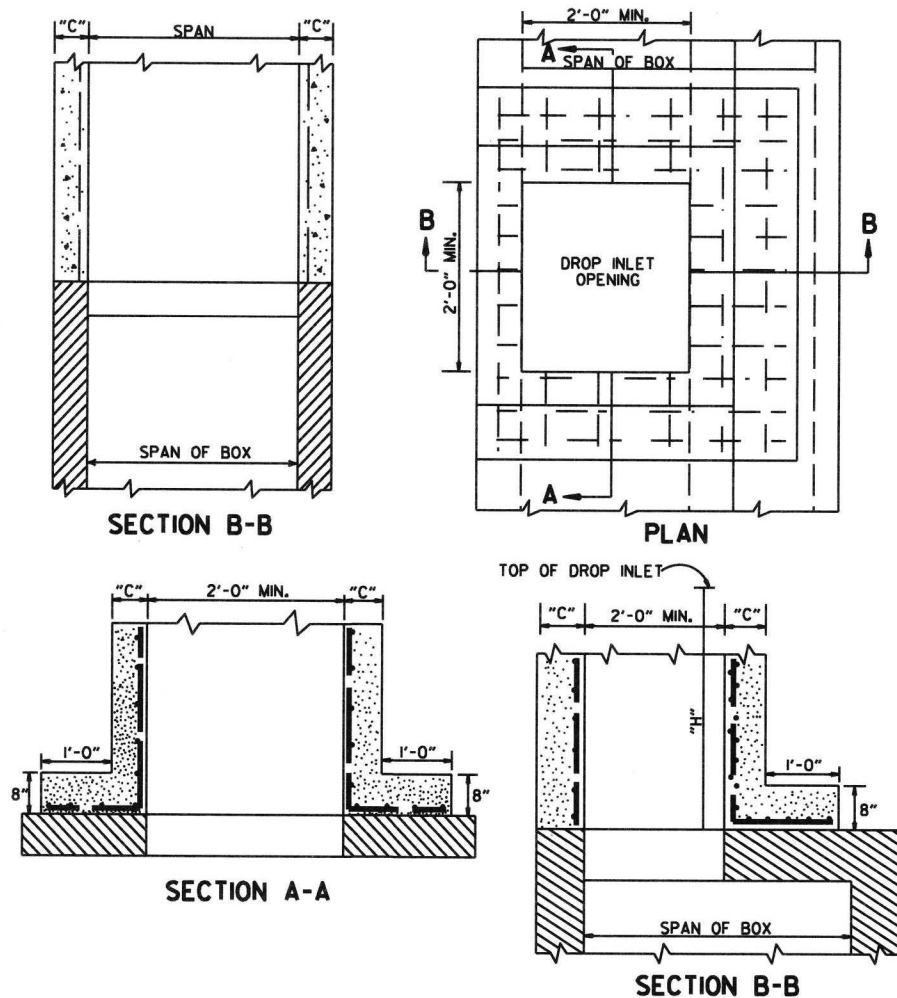
MULTIPLE C.M. PIPE CULVERTS

10-18-96	REVISED ASTM REF. TO AASHTO								
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	ARKANSAS STATE HIGHWAY COMMISSION						
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78							
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75							
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74							
5-24-73	CMP END SECTION SHOW PIPE PAY LENGTH	627-5-24-73							
10-2-72	REVISED AND REDRAWN	760-10-2-72							
DATE	REVISION	FILED							

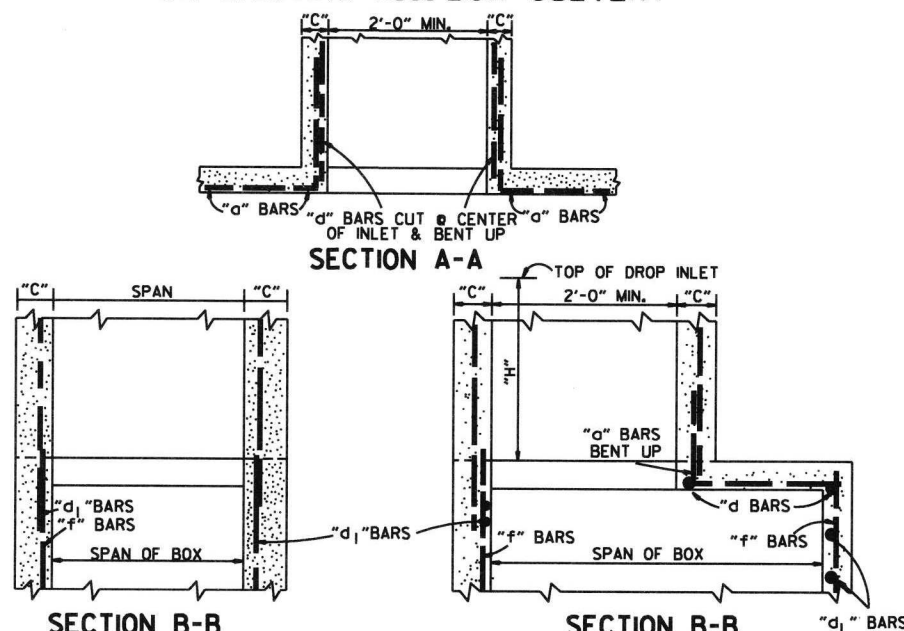
FLARED END SECTION

STANDARD DRAWING FES-2



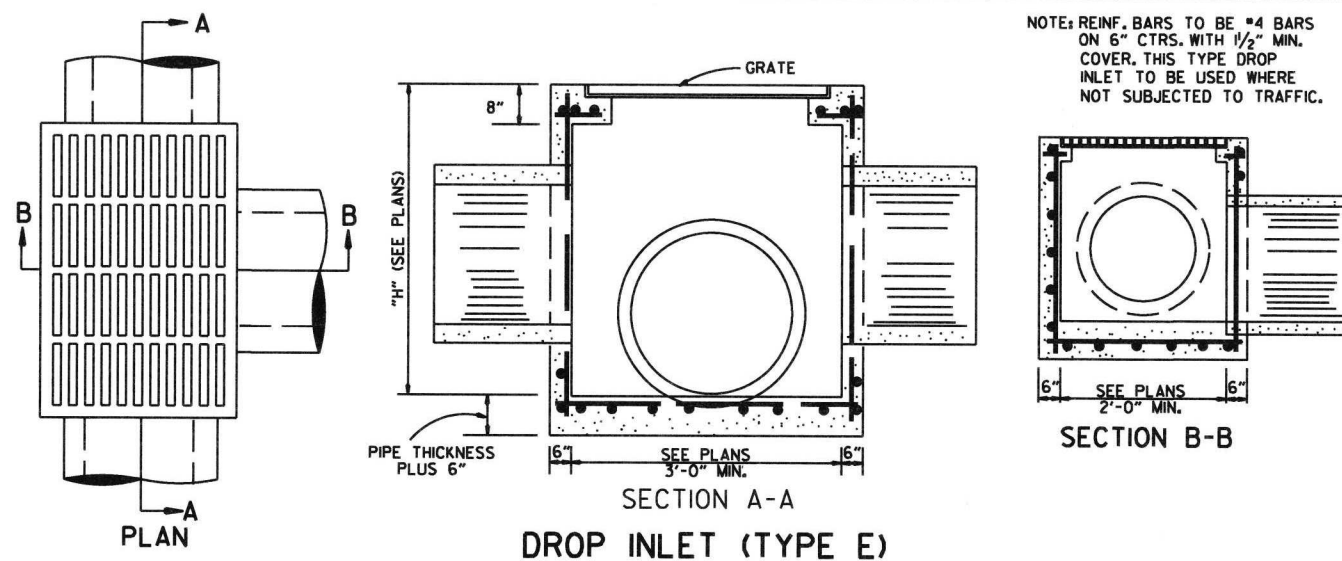


**METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT**



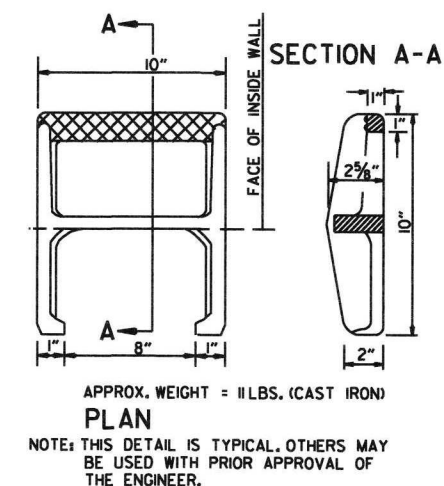
**METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT**

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



**DROP INLET (TYPE E)**

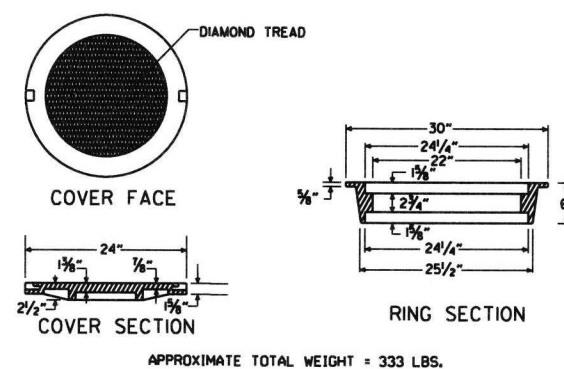
NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



APPROX. WEIGHT = 11 LBS. (CAST IRON)

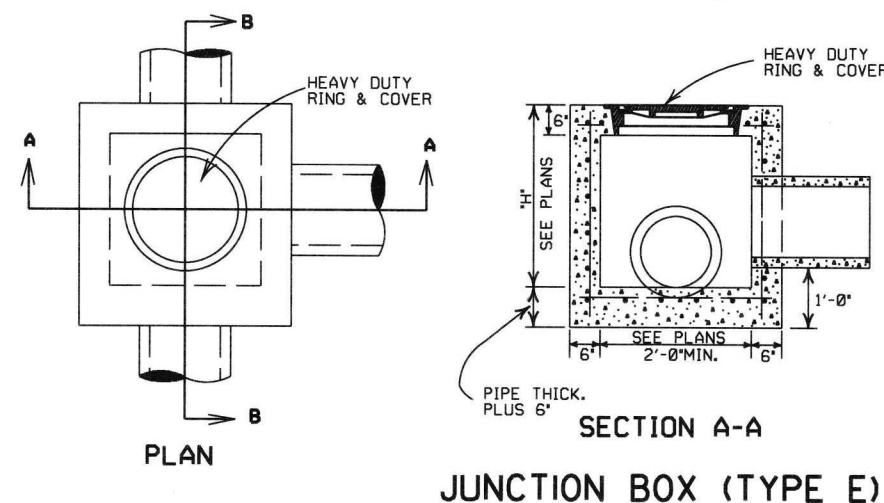
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

**DETAIL OF STEP FOR DROP INLET**



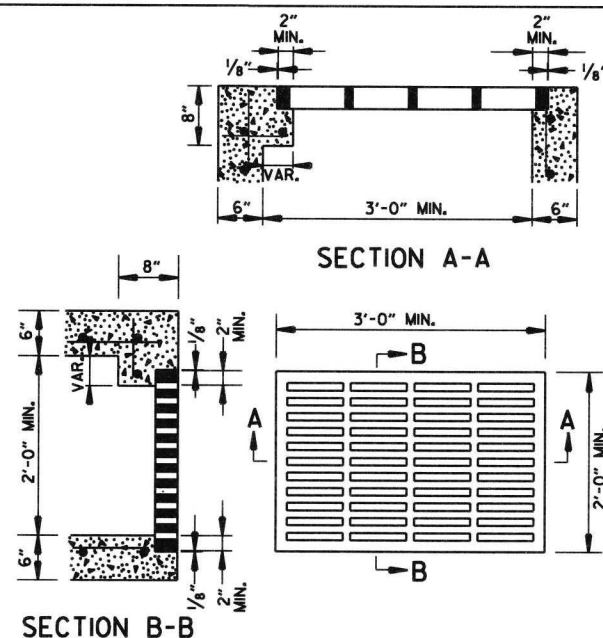
**HEAVY DUTY RING & COVER**

APPROXIMATE TOTAL WEIGHT = 333 LBS.



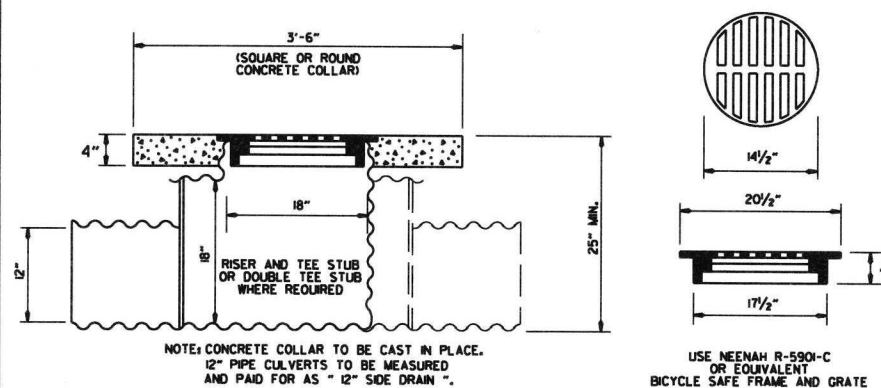
**JUNCTION BOX (TYPE E)**

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



**GRATE FOR TYPE E DROP INLET**

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.



**DETAIL OF YARD DRAIN**

11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED (TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	
DATE REV.	REVISION	DATE FILMED

- GENERAL NOTES:**
1. ALL EXPOSED CORNERS SHALL BE 3/4" CHAMFERED.
  2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
  3. EXPANSION JOINT MATERIAL SHALL BE 3/4" PREFORMED FIBER.
  4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
  5. GRATE AND FRAME SHALL NOT BE PAINTED.
  6. GRATE SHALL BE BICYCLE SAFE.
  7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
  8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
  9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
  10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

ARKANSAS STATE HIGHWAY COMMISSION

**DETAILS OF DROP INLETS & JUNCTION BOXES**

STANDARD DRAWING FPC-9



REINFORCED CONCRETE  
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31¾	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE  
HORIZONTAL ELLIPTICAL  
PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(i).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

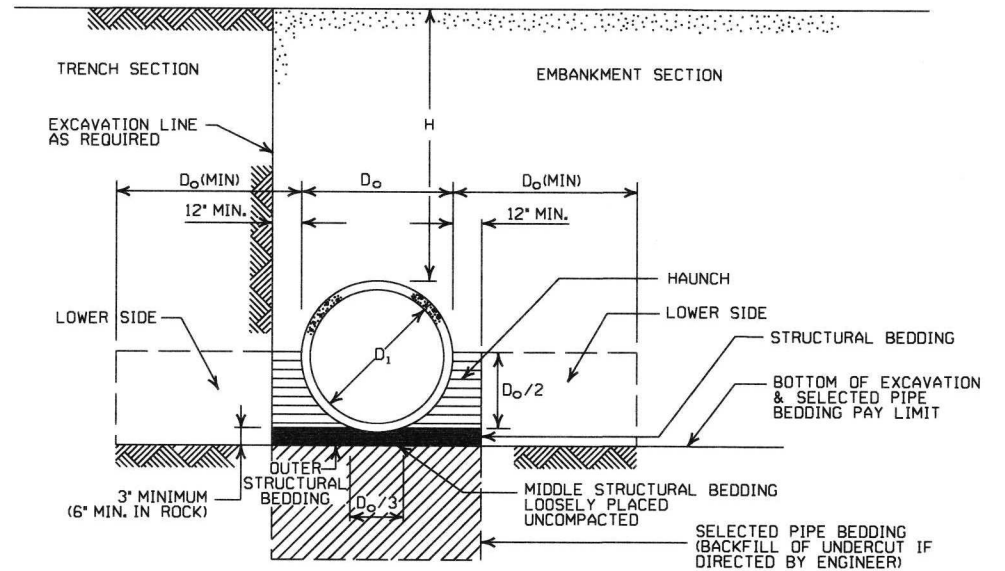
- LEGEND -

$D_1$  = NORMAL INSIDE DIAMETER OF PIPE  
 $D_o$  = OUTSIDE DIAMETER OF PIPE  
 $H$  = FILL COVER HEIGHT OVER PIPE (FEET)  
MIN. = MINIMUM  
= UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

\* SM-3 WILL NOT BE ALLOWED.

\*\* MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M10, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H"  
OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
PIPE ID (IN.)	TYPE 1 OR 2	TYPE 3	ALL	ALL
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MINIMUM HEIGHT OF FILL "H"  
OVER R.C. ARCH & HORIZONTAL  
ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
TYPE 2 OR TYPE 3	FEET	
	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF  
FILL "H" OVER CIRCULAR  
R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MAXIMUM HEIGHT OF FILL "H"  
OVER R.C. ARCH & HORIZONTAL  
ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

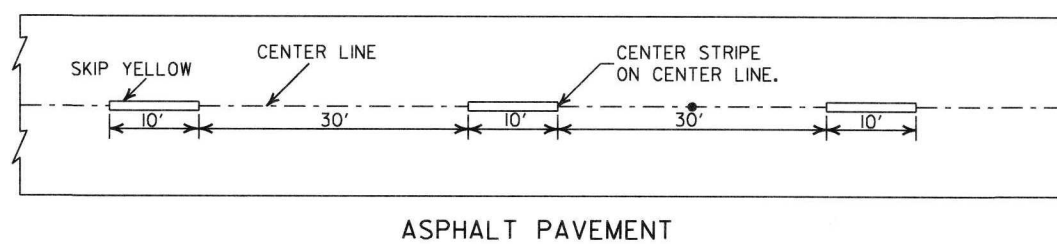
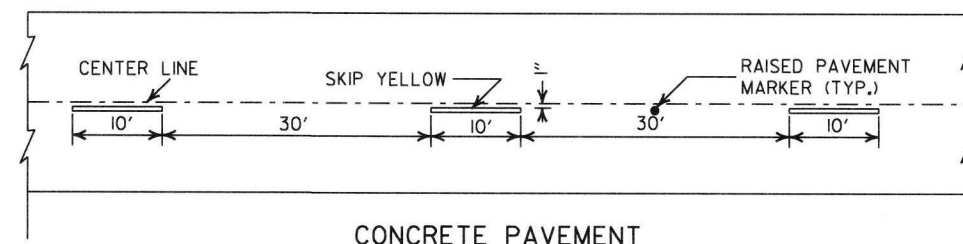
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT  
FILL HEIGHTS & BEDDING

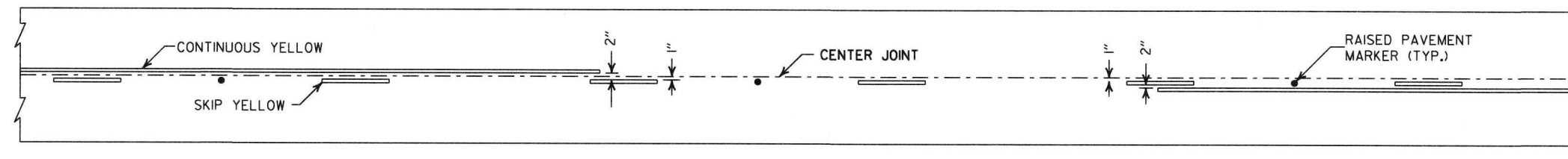
STANDARD DRAWING PCC-1



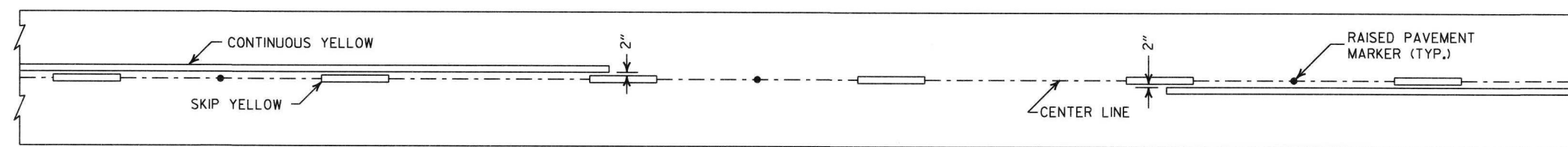




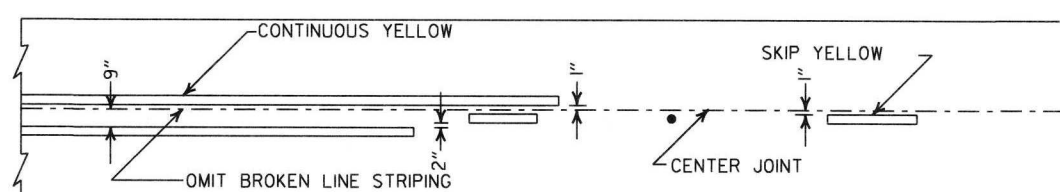
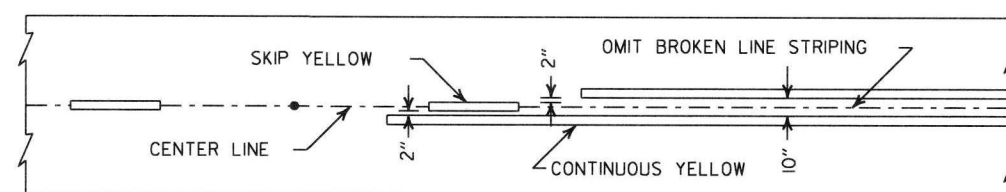
### BROKEN LINE STRIPING



### SOLID LINE STRIPING ON CONCRETE PAVEMENT



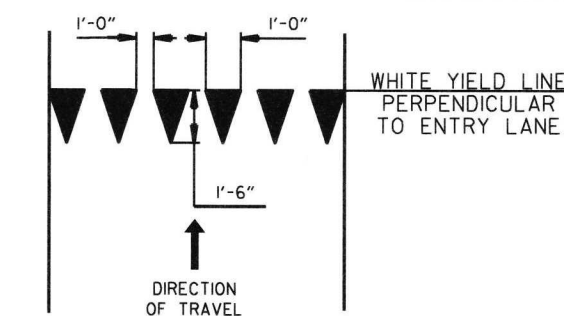
### SOLID LINE STRIPING ON ASPHALT PAVEMENT



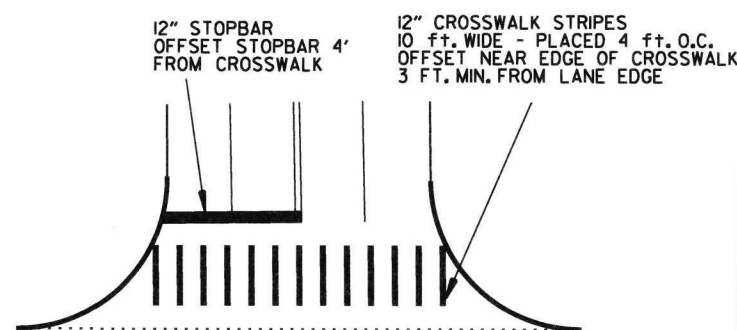
ASPHALT PAVEMENT

CONCRETE PAVEMENT

### STRIPING AT ADJACENT NO PASSING LANES



### YIELD LINE DETAIL

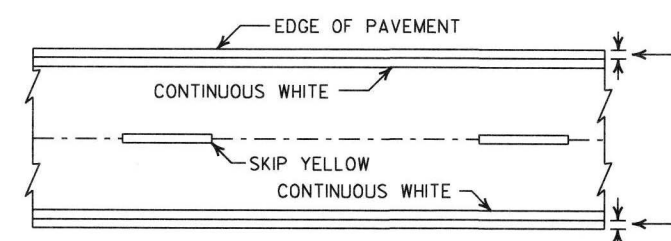


### CROSSWALK AND STOPBAR DETAILS

#### NOTES:

1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

2" FOR ASPHALT OR CONCRETE PAVEMENT  
6" FOR BITUMINOUS SURFACE TREATMENT

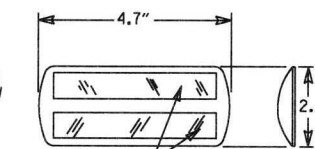


### PAVEMENT EDGE LINE MARKING

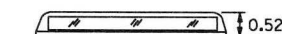
NOTE:  
THE RED LENS OF THE  
TYPE II R.P.M. SHALL  
FACE THE INCORRECT  
TRAFFIC MOVEMENT.

TYPE II  
RED/CLEAR OR  
YELLOW/YELLOW

PRISMATIC REFLECTOR



NOTE:  
DIMENSIONS SHOWN FOR RAISED PAVEMENT  
MARKERS ARE TYPICAL. THE CONTRACTOR  
MAY SUBSTITUTE SIMILAR MARKERS WITH  
THE APPROVAL OF THE ENGINEER. REQUESTING  
APPROVAL FOR SIMILAR MARKERS MAY BE  
MADE BY REFERRING TO THE AHTD QUALIFIED  
PRODUCTS LIST.



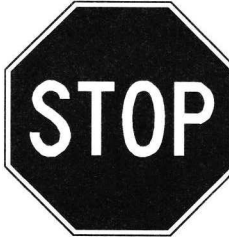








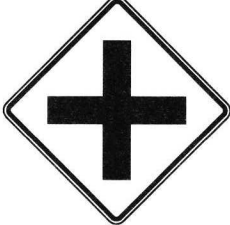



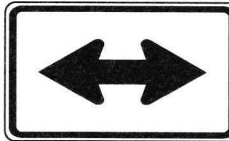
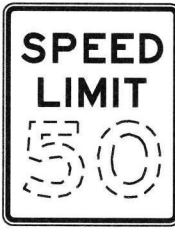

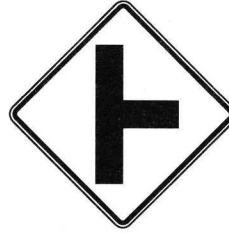





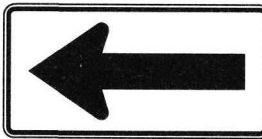



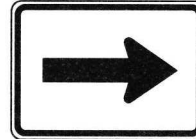
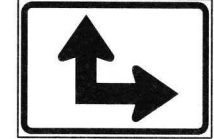

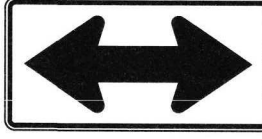


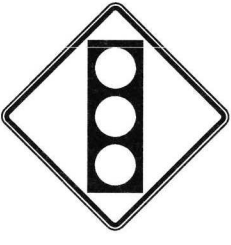



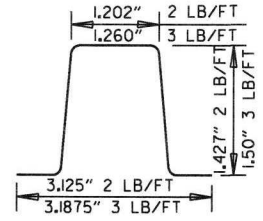
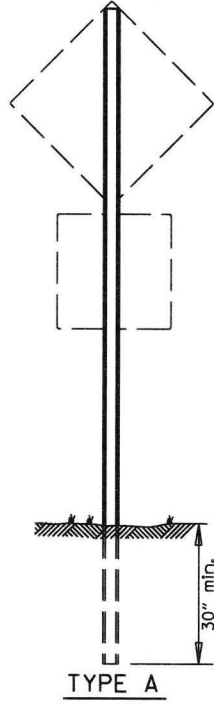
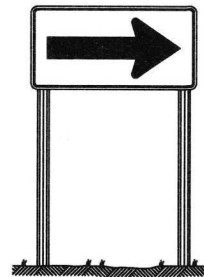
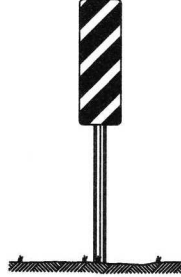
### DETAIL OF STANDARD RAISED PAVEMENT MARKERS

6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PAVT. MKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAVT. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

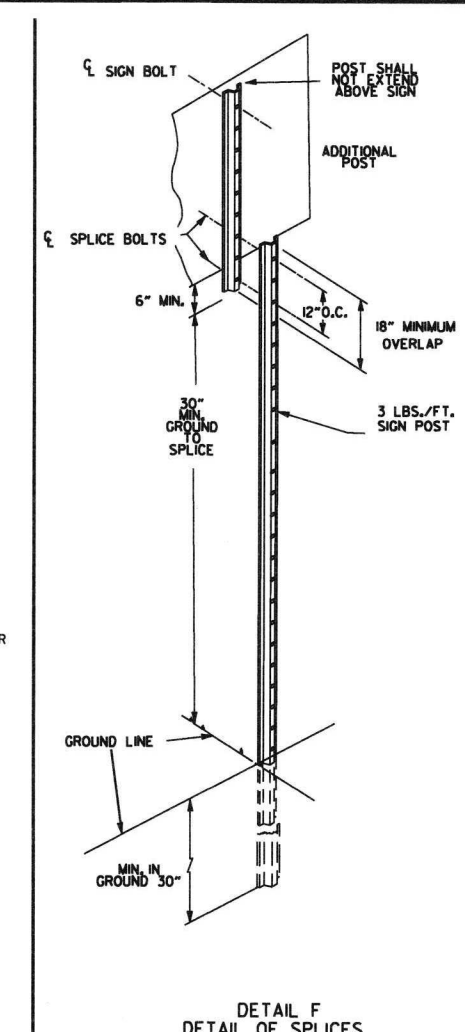
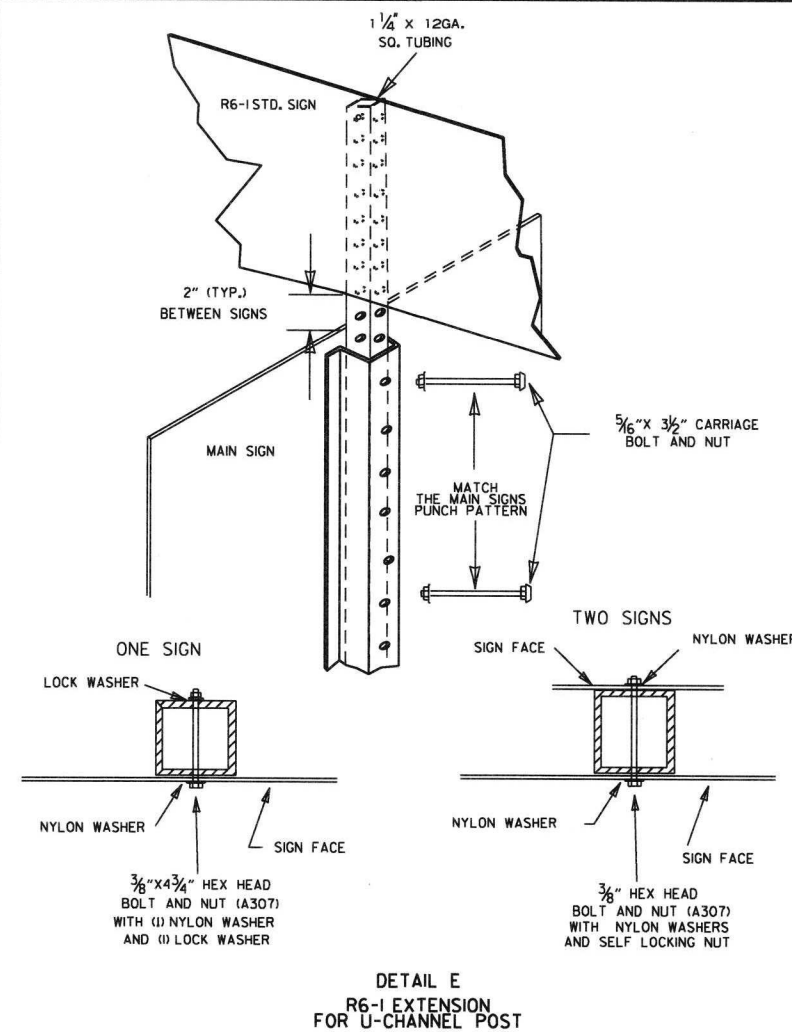
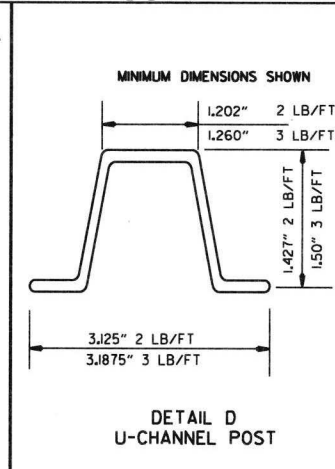
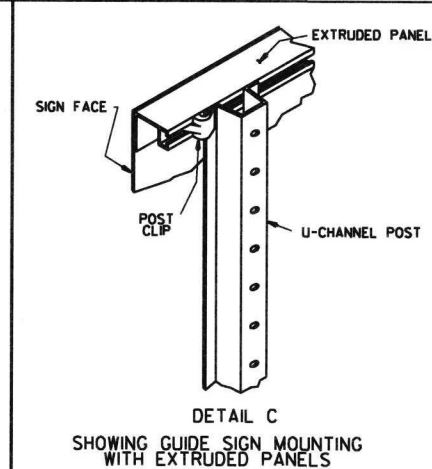
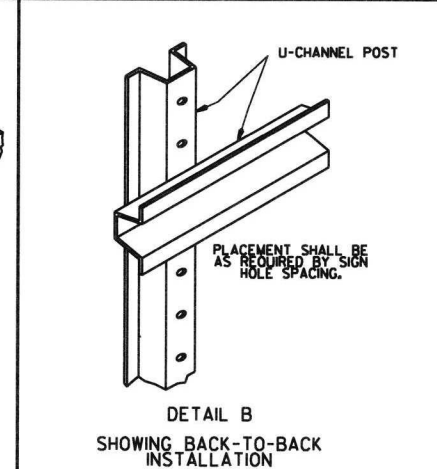
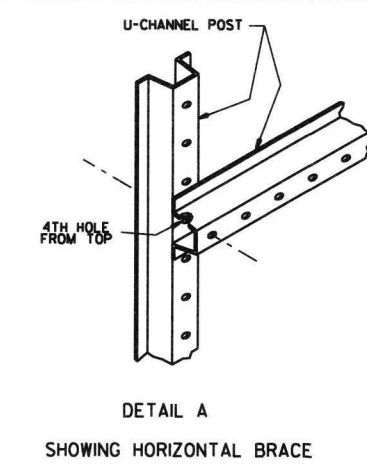
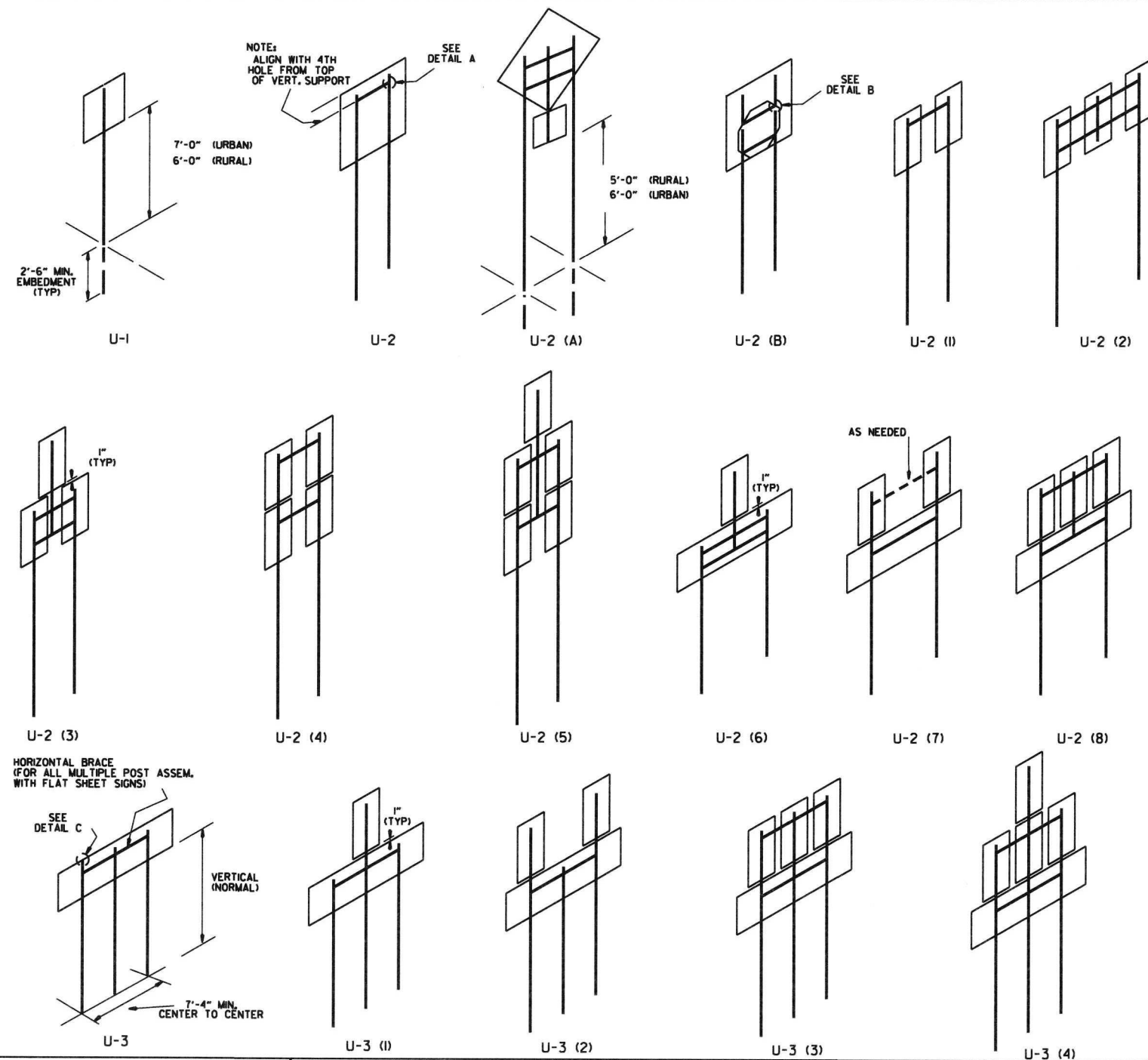
ARKANSAS STATE HIGHWAY COMMISSION

### PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

																																								
RI-1 30"x30"	W1-3 30"x30" (LT. OR RT.)	W1-8 18"x24"	W2-5 30"x30"	W3-1 36"x36"	W5-1 36"x36"	M6-3 21"x15"																																		
																																								
RI-2 36"x36"x36"	W1-4 30"x30" (LT. OR RT.)	W2-1 30"x30"	SI-1 36"x36"	W3-2 36"x36"	County Route Marker MI-6 24"x24" <small>NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER &amp; NUMBER) &amp; BORDER ON A BLUE BACKGROUND.</small>	M6-4 21"x15"																																		
																																								
R2-1 24"x30"	W1-5 30"x30" (LT. OR RT.)	W2-2 30"x30"	W5-2 36"x36"	W8-3 36"x36"	RI-3P 18"x6"	M6-5 21"x15"																																		
																																								
W1-1 30"x30" (LT. OR RT.)	W1-6 48"x24"	W2-3 30"x30" (LT. OR RT.)	W5-3 36"x36"	W13-1P 18"x18"	M6-1 21"x15" <small>NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW &amp; BORDER WITH BLUE BACKGROUND.</small>	M6-6 21"x15"																																		
						 																																		
W1-2 30"x30" (LT. OR RT.)	W1-7 48"x24"	W2-4 30"x30"	W10-1 36" DIAMETER	W3-3 36"x36"	M6-2 21"x15"	S4-3P 24"x8"  S4-2P 24"x10"																																		
<div>STANDARD HIGHWAY SIGNS</div>																																								
							<div><div>MINIMUM DIMENSIONS SHOWN</div><div>SUPPORT SECTION</div><div>(U-CHANNEL) STANDARD SUPPORT ASSEMBLIES</div></div> <div><div>TYPE A</div><div><small>NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.</small></div></div>																																	
							<div><div><div>TYPE B</div><div>TYPE C</div></div><div>MINIMUM WEIGHT</div><div>TYPE A &amp; B = 3 LBS./FT. TYPE C = 2 LBS./FT.</div></div>																																	
							<div>SUPPORT ASSEMBLIES</div> <div>ARKANSAS STATE HIGHWAY COMMISSION</div> <div>STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES</div> <div>STANDARD DRAWING SHS-1</div>																																	
							<table><tr><td>9-12-13</td><td>DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P</td><td></td></tr><tr><td>4-17-08</td><td>REVISED SIGN DESIGNATION - W3-1 &amp; W3-2</td><td></td></tr><tr><td>4-10-03</td><td>REVISED W5-2, W8-3, OM-3; ADDED W1-8</td><td></td></tr><tr><td>1-5-81</td><td>REDRAWN</td><td>960-1-15-81</td></tr><tr><td>9-15-78</td><td>ADDED W14-3</td><td>877-9-15-78</td></tr><tr><td>9-2-76</td><td>POST WT.</td><td>623-9-3-76</td></tr><tr><td>5-3-76</td><td>STEEL POST WT. FROM 2"-3"; ADDED S4-2 &amp; S4-3</td><td>504-5-3-76</td></tr><tr><td>8-12-74</td><td>REV. HT. TYPE "C" ASSEMBLY</td><td>500-8-21-74</td></tr><tr><td>12-21-72</td><td>ADDED M6-2,3,4,5,6</td><td>500-12-21-72</td></tr><tr><td>12-1-72</td><td>ISSUED</td><td>562-12-1-72</td></tr><tr><td>DATE</td><td>REVISION</td><td>DATE FILMED</td></tr></table>	9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P		4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2		4-10-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8		1-5-81	REDRAWN	960-1-15-81	9-15-78	ADDED W14-3	877-9-15-78	9-2-76	POST WT.	623-9-3-76	5-3-76	STEEL POST WT. FROM 2"-3"; ADDED S4-2 & S4-3	504-5-3-76	8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74	12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72	12-1-72	ISSUED	562-12-1-72	DATE	REVISION	DATE FILMED
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DATE	REVISION	DATE FILMED																																						





**NOTES:**

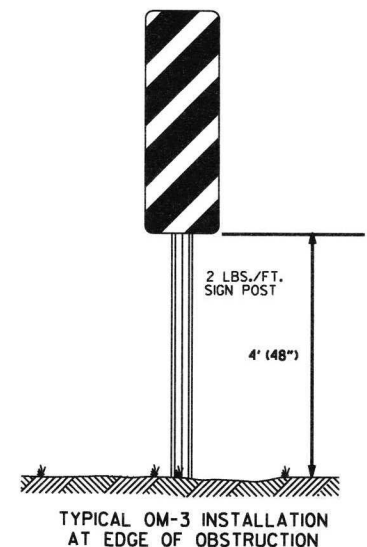
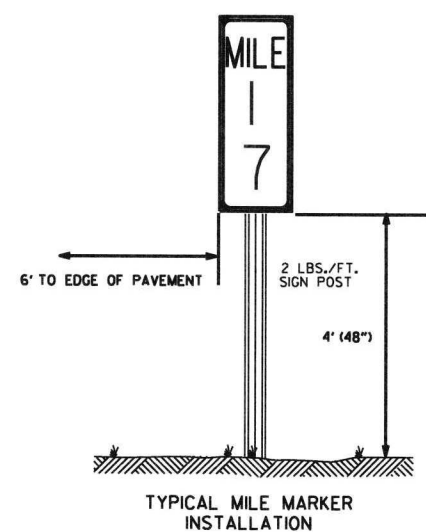
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).


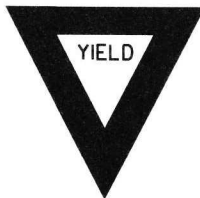



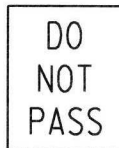



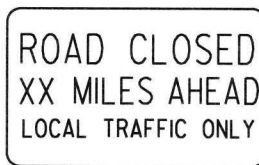
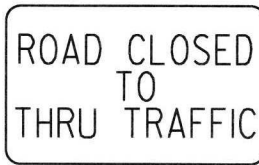







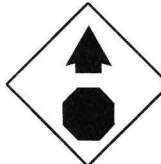
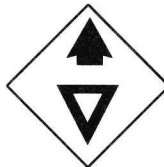
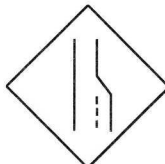
















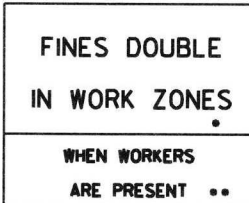


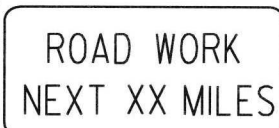
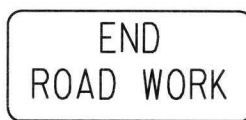
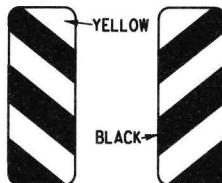


NORMAL INSTALLATIONS WILL REQUIRE 3/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

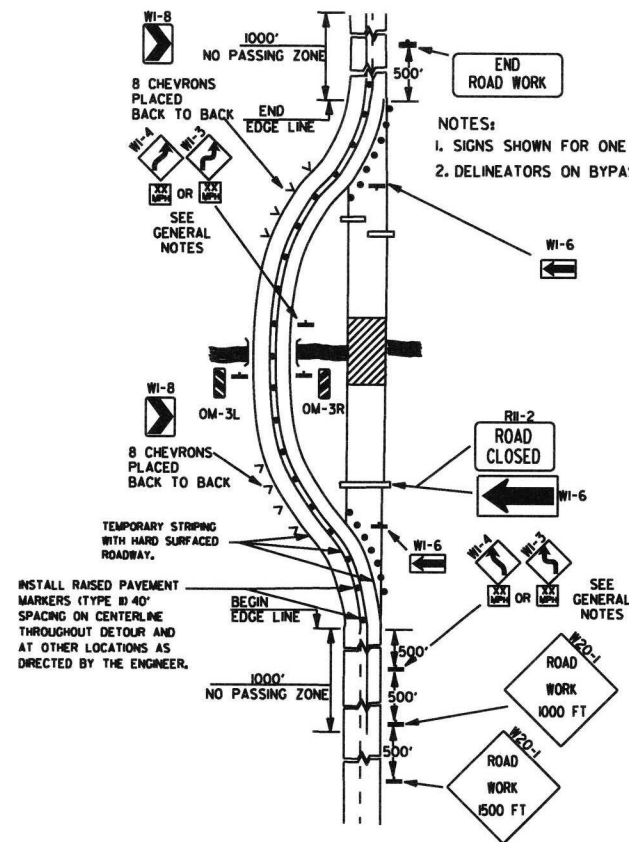
THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



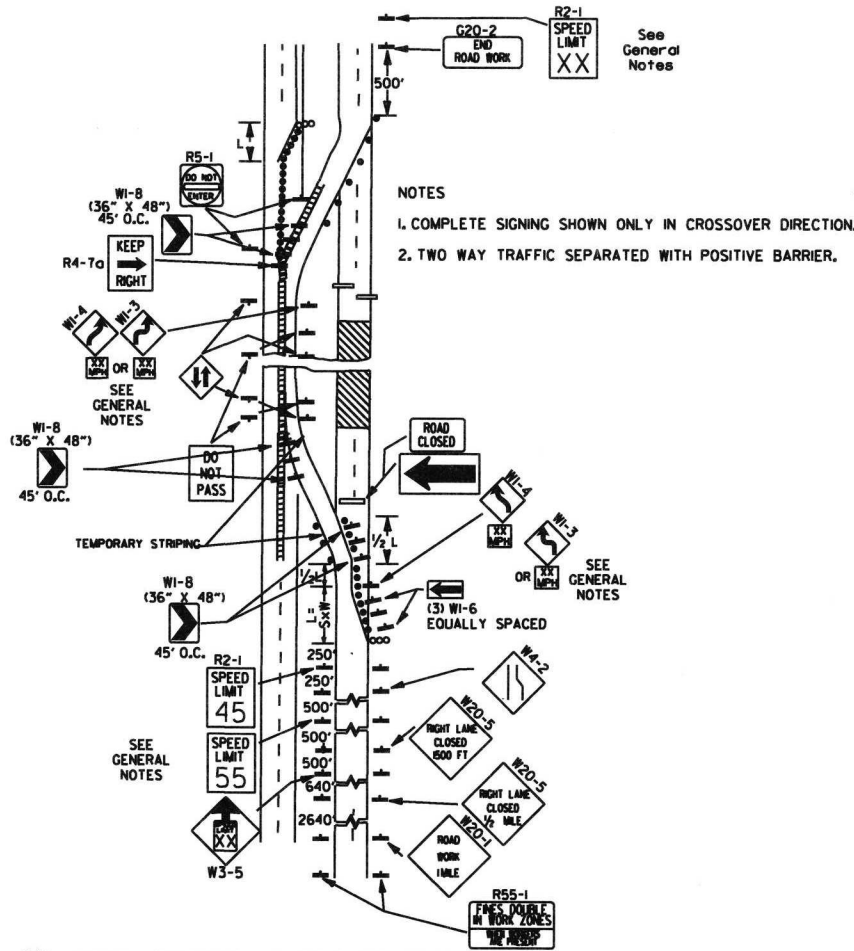
ARKANSAS STATE HIGHWAY COMMISSION		
U-CHANNEL POST ASSEMBLIES		
STANDARD DRAWING SHS-2		
DATE	REVISION	FILMED
2-27-14	REVISED NOTES.	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D, ADDED DETAILS E & F, ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

<div>RI-1</div> <div></div> <div>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</div>	<div>RI-2</div> <div></div> <div>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</div>	<div>R2-1</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>W3-5</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>	<div>W3-5a</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>	<div>R4-1</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>R4-2</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>ADVANCE DISTANCES (XXXX)</div> <div>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</div> <div>GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 &amp; 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</div>
<div>R5-1</div> <div></div> <div>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</div>	<div>R11-2</div> <div></div> <div>48"x30"</div>	<div>R11-3A</div> <div></div> <div>60"x30"</div>	<div>R11-4</div> <div></div> <div>60"x30"</div>	<div>W21-5a</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W1-1</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W1-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	
<div>W1-3</div> <div></div> <div>STD. 48"x48"</div>	<div>W1-4</div> <div></div> <div>STD. 48"x48"</div>	<div>W1-6</div> <div></div> <div>STD. 48"x24" SPECIAL 60"x30"</div>	<div>W1-8</div> <div></div> <div>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</div>	<div>W3-1</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W3-2</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W4-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	
<div>W5-1</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W6-3</div> <div></div> <div>EXPWY. 36"x36" SPECIAL 48"x48"</div>	<div>W8-7</div> <div></div> <div>EXPWY. 36"x36" FWY. 48"x48"</div>	<div>W9-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W13-1</div> <div></div> <div>STD. 24"x24"</div>	<div>W20-1</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-2</div> <div></div> <div>STD. 48"x48"</div>	
<div>W20-3</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-4</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-5</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-7a</div> <div><div>18" 500 FEET 18" W6-2 24"</div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W21-2</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>	<div>W21-5</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>	<div>W24-1</div> <div></div> <div>STD. 36"x36"</div>	
<div>W1-4b</div> <div></div> <div>STD. 48"x48"</div>	<div>R56-1</div> <div></div> <div>STD. 18"x18"</div>	<div>R55-1</div> <div></div> <div>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</div>					
<div>W8-11</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W8-9</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>G20-1</div> <div></div> <div>60"x24"</div>	<div>G20-2</div> <div></div> <div>48"x24"</div>	<div>OM-3L OM-3R</div> <div></div> <div>12"x36"</div>	<div>M4-9</div> <div></div> <div>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</div>	<div>M4-10</div> <div></div> <div>48"x18"</div>	

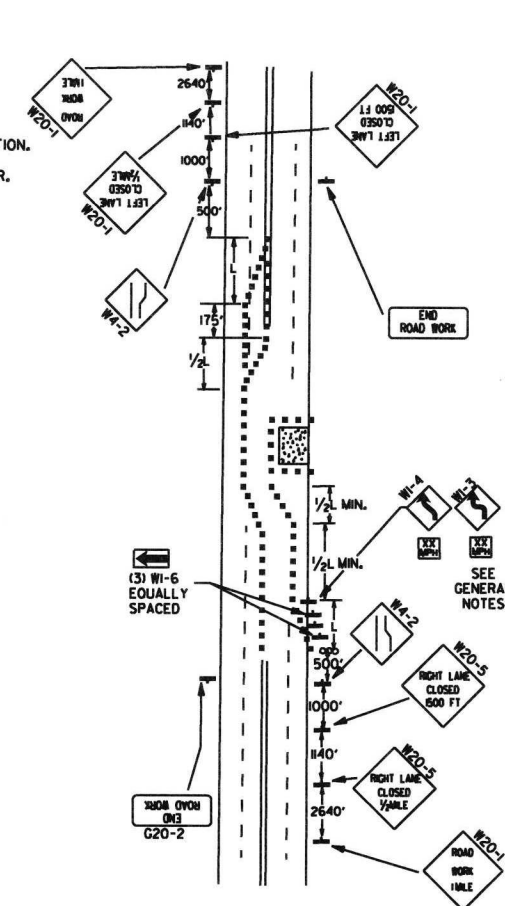




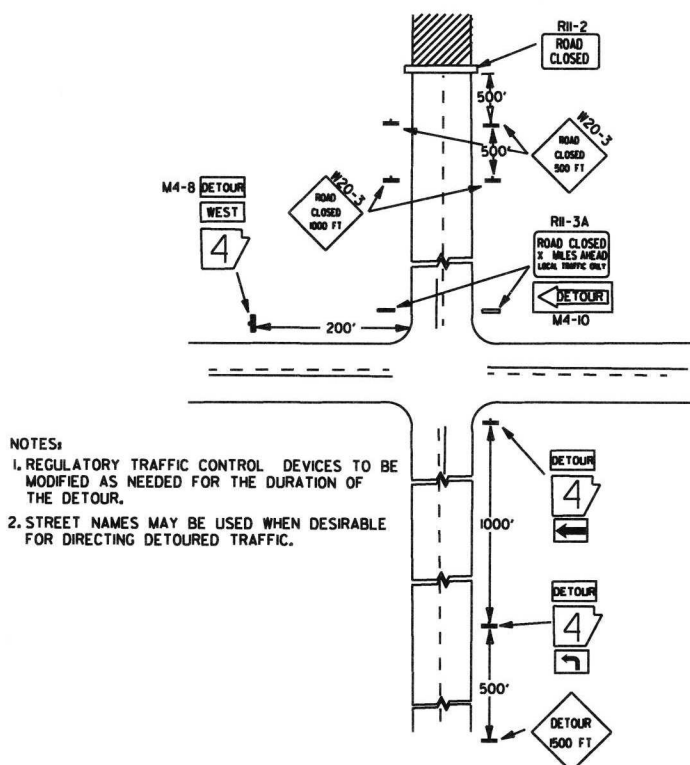
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



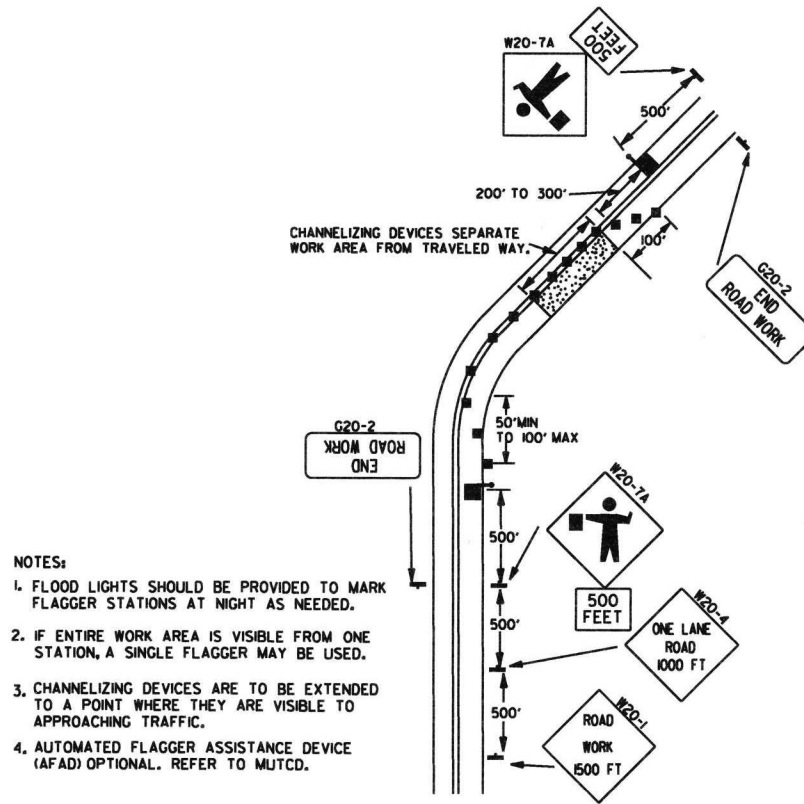
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



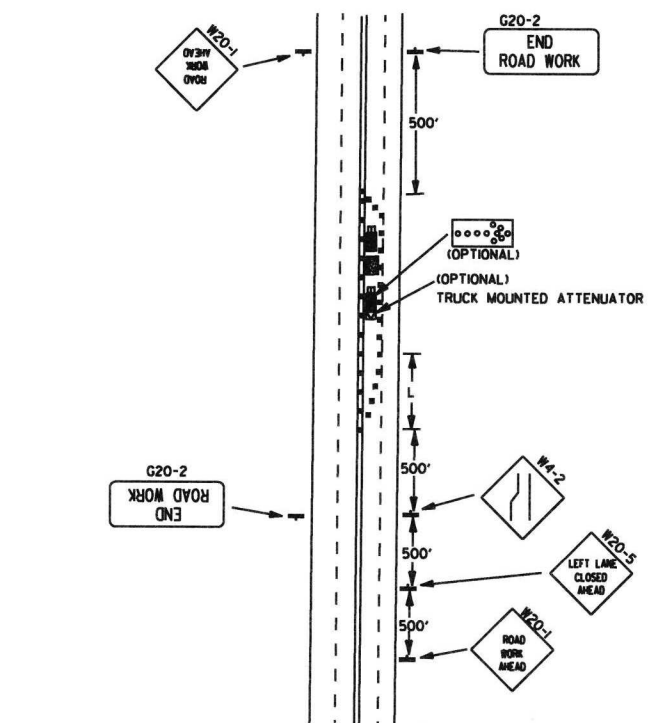
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



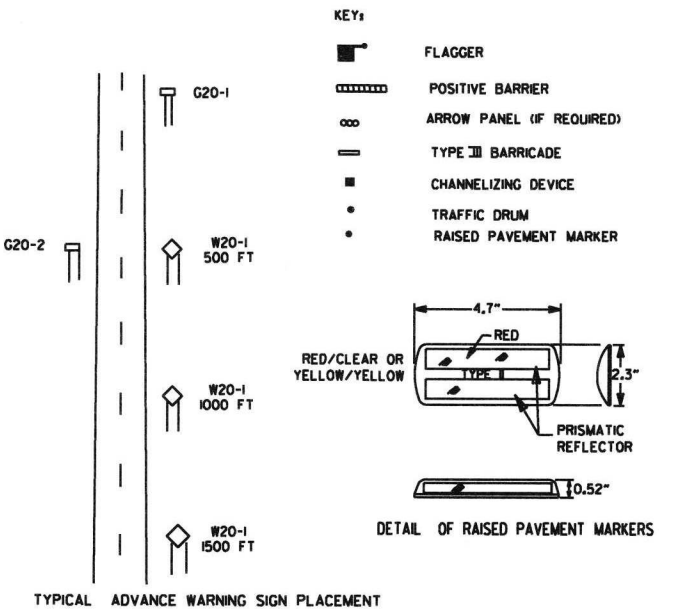
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.



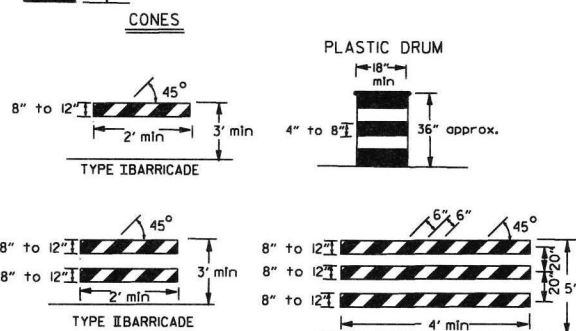
GENERAL NOTES:  
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.  
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(K55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45MPH) SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.  
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(K65) SHALL BE OMITTED. ADDITIONAL R2-1(55MPH) SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.  
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.  
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.  
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.  
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER, WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.  
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

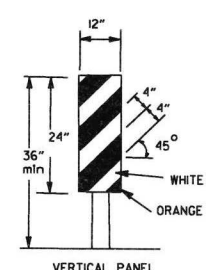
ARKANSAS STATE HIGHWAY COMMISSION  
STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION  
STANDARD DRAWING TC-2

# Channelizing devices

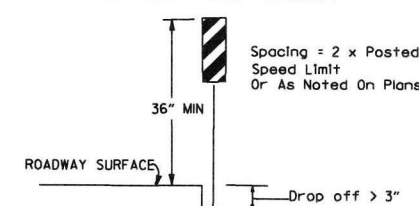
When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



## VERTICAL PANEL PLACEMENT



## TRAFFIC CONTROL DEVICES

### FOR VERTICAL PAVEMENT DIFFERENTIALS

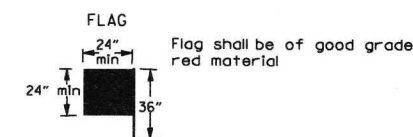
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-II
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required

Greater than 3" Edge of traveled lane \*RSP-I and vertical panels, drums or concrete barrier

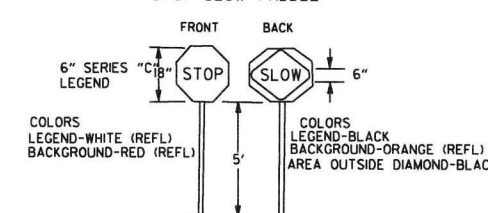
Greater than 3" Edge of shoulder \*Vertical panels, drums or concrete barrier

\* When shown on the plans concrete barrier will be used.

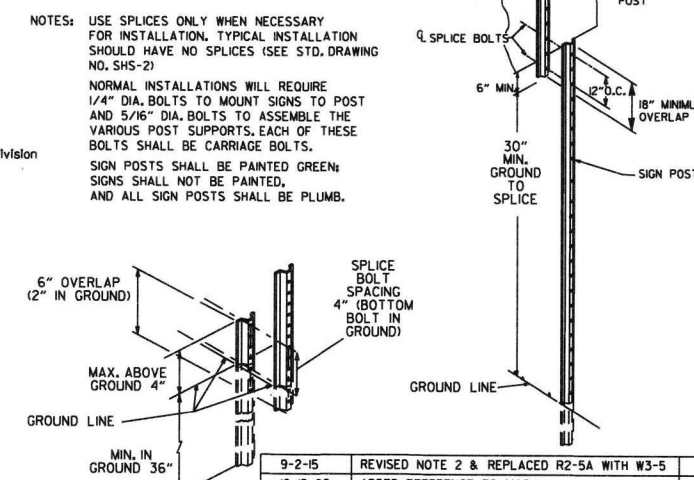
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



## STOP SLOW PADDLE



## DETAIL OF SPLICES & SIGN BOLT



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

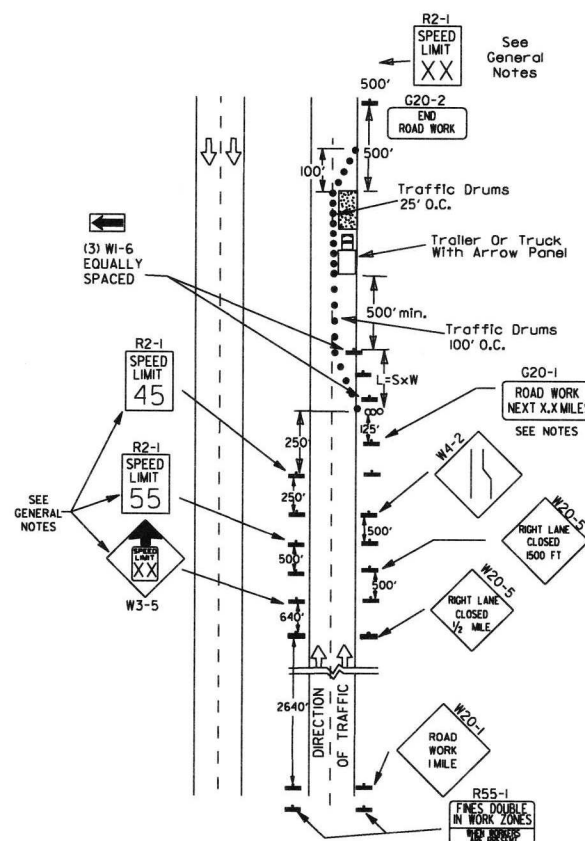
SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

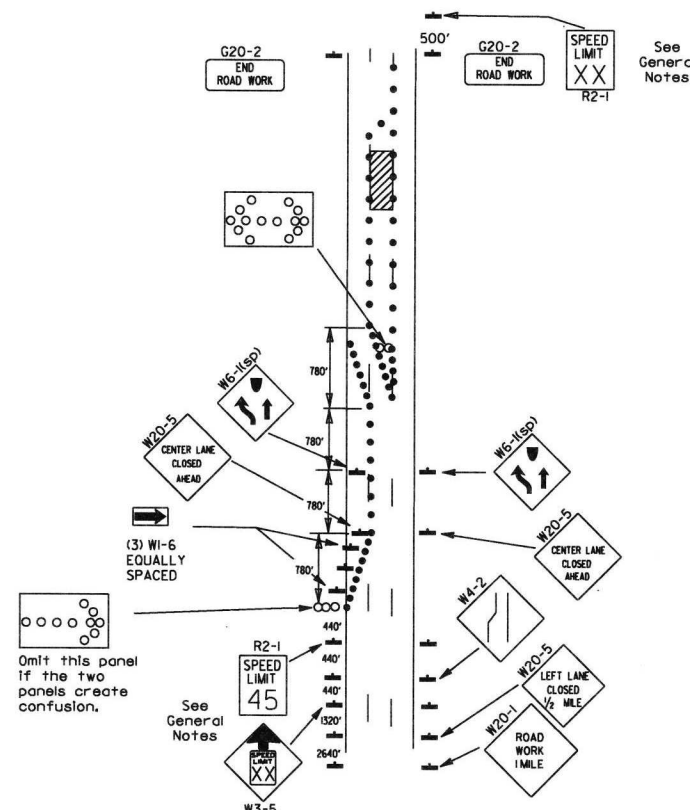
ARKANSAS STATE HIGHWAY COMMISSION  
STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



KEY:

○○○ Arrow Panel (if Required)

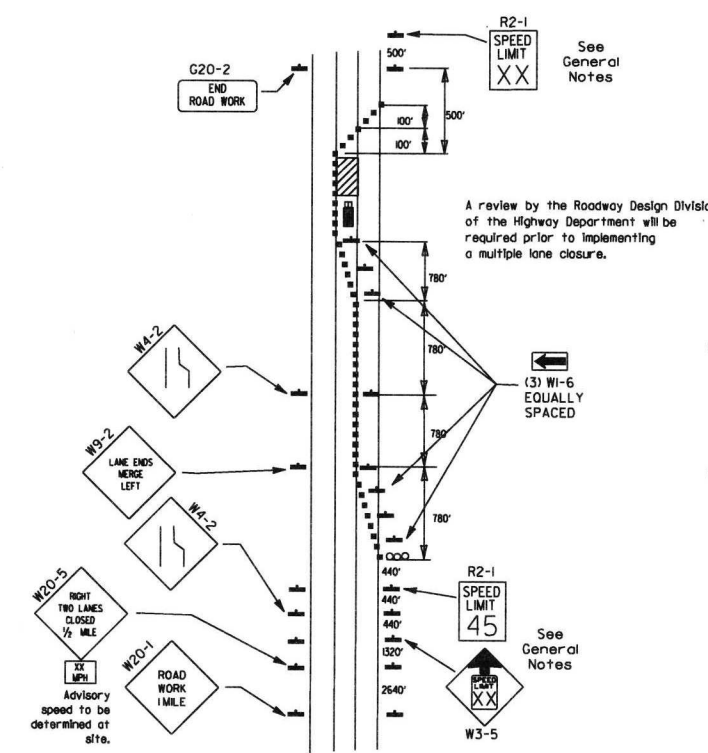
■ Channelizing Device

● Traffic drum

## GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1(1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
- Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

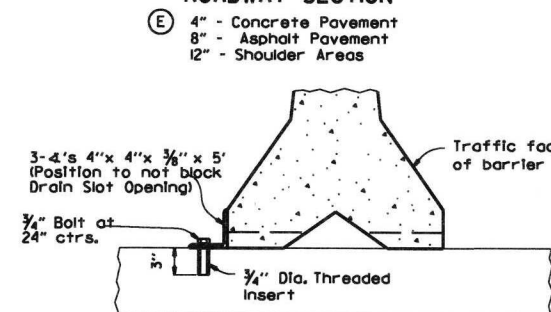
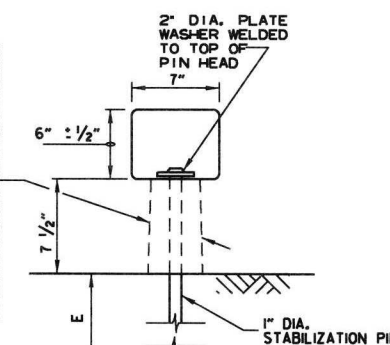
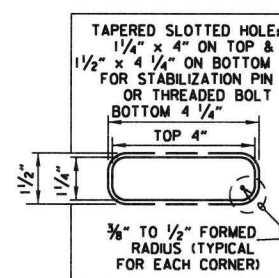
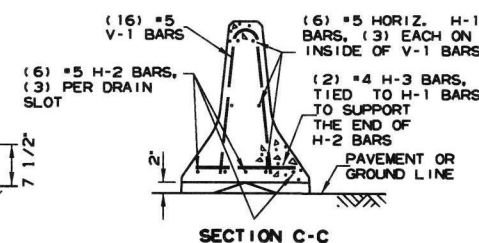
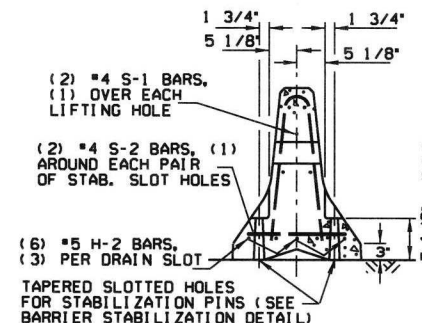
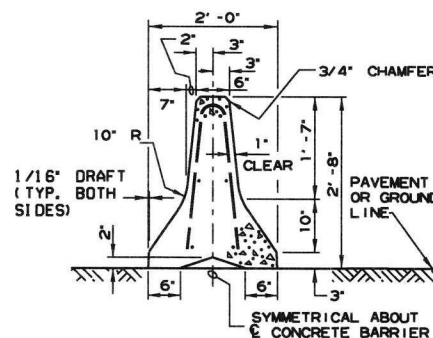
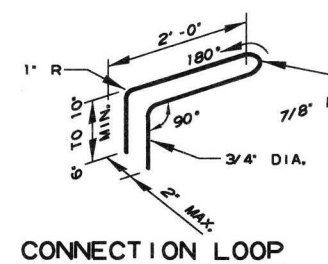
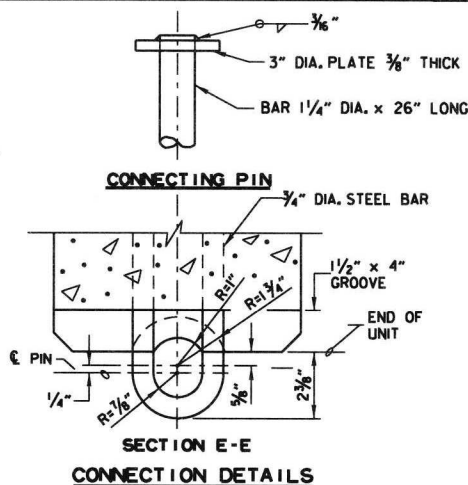
(D) Typical application - closing multiple lanes of a multi-lane highway.



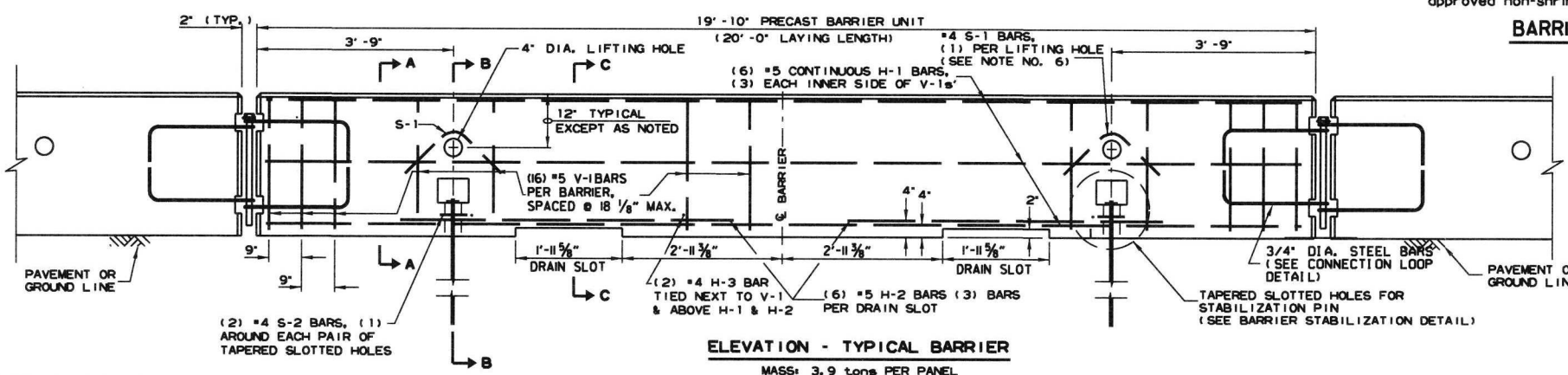
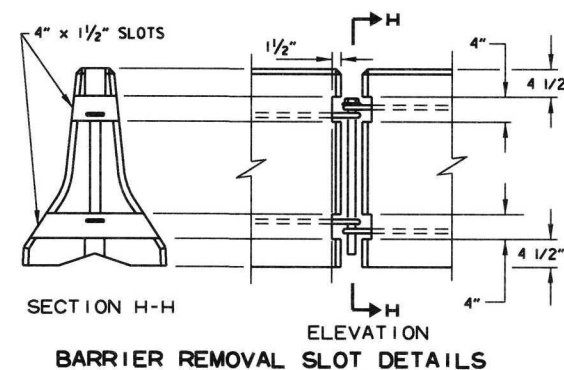
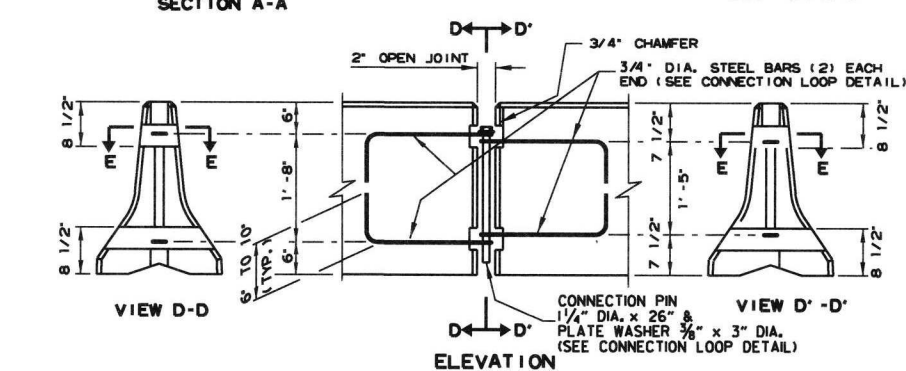
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



REINFORCING BAR TABLE PER BARRIER UNIT				
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.



**General Notes**

① The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

② Materials shall meet the following minimum requirements: Concrete: 2500 psi compressive strength at 28 days. Reinforcing Steel: AASHTO M 31 or M 53, Grade 60. Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin. Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices. Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

③ Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

④ Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

⑤ Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

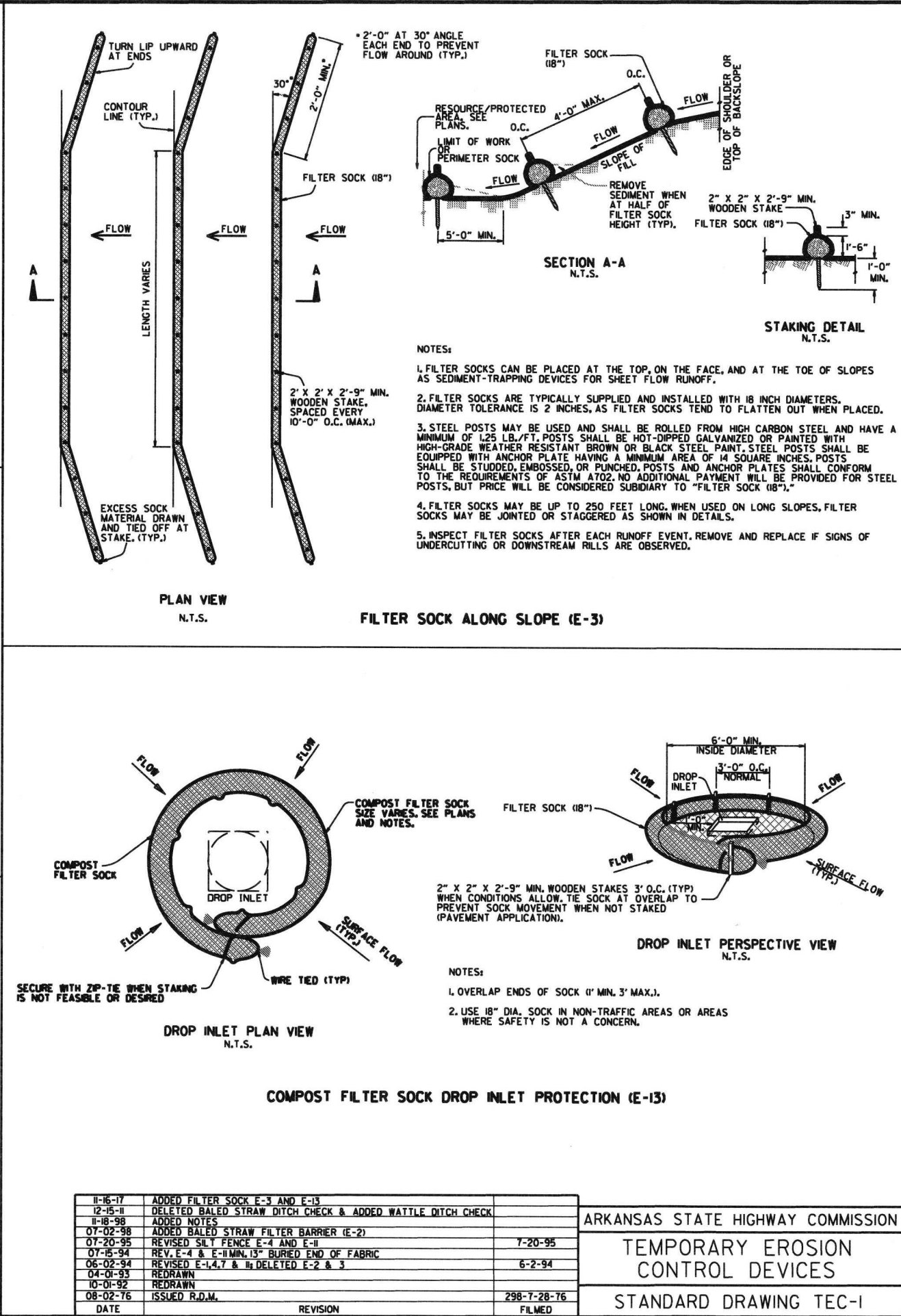
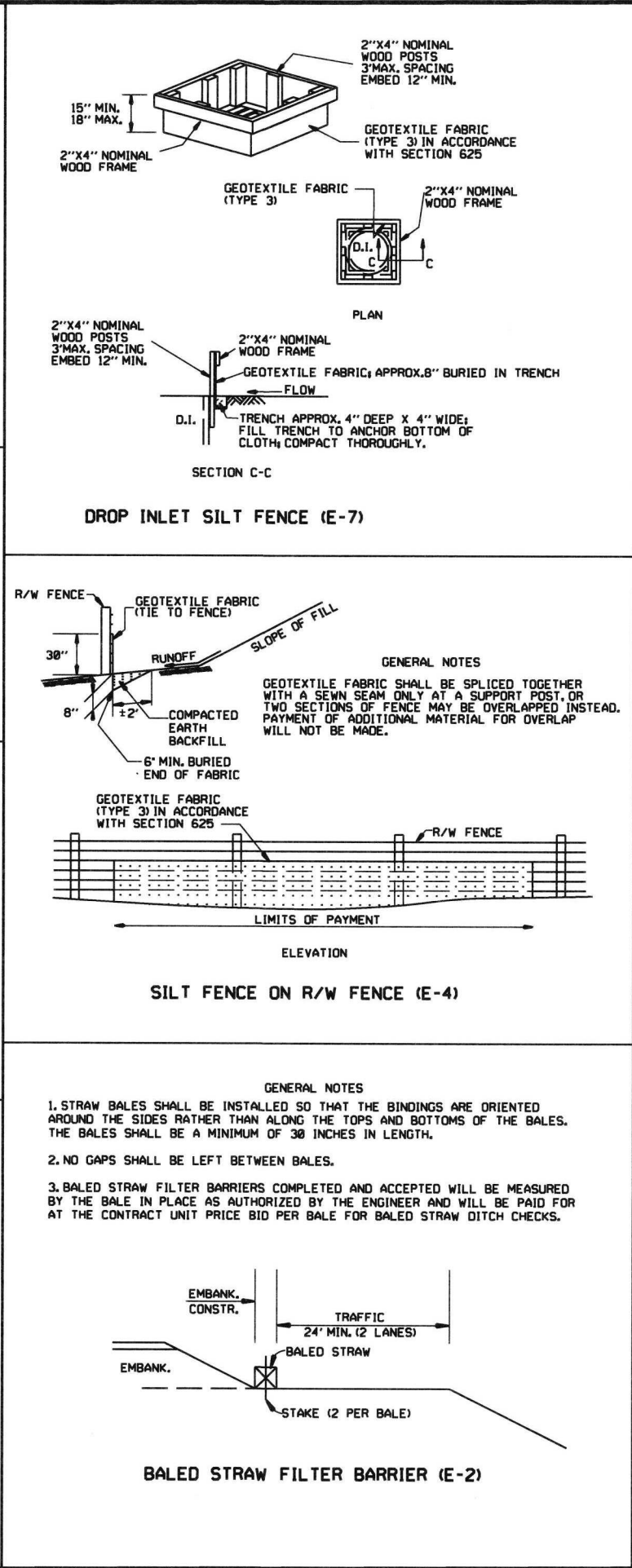
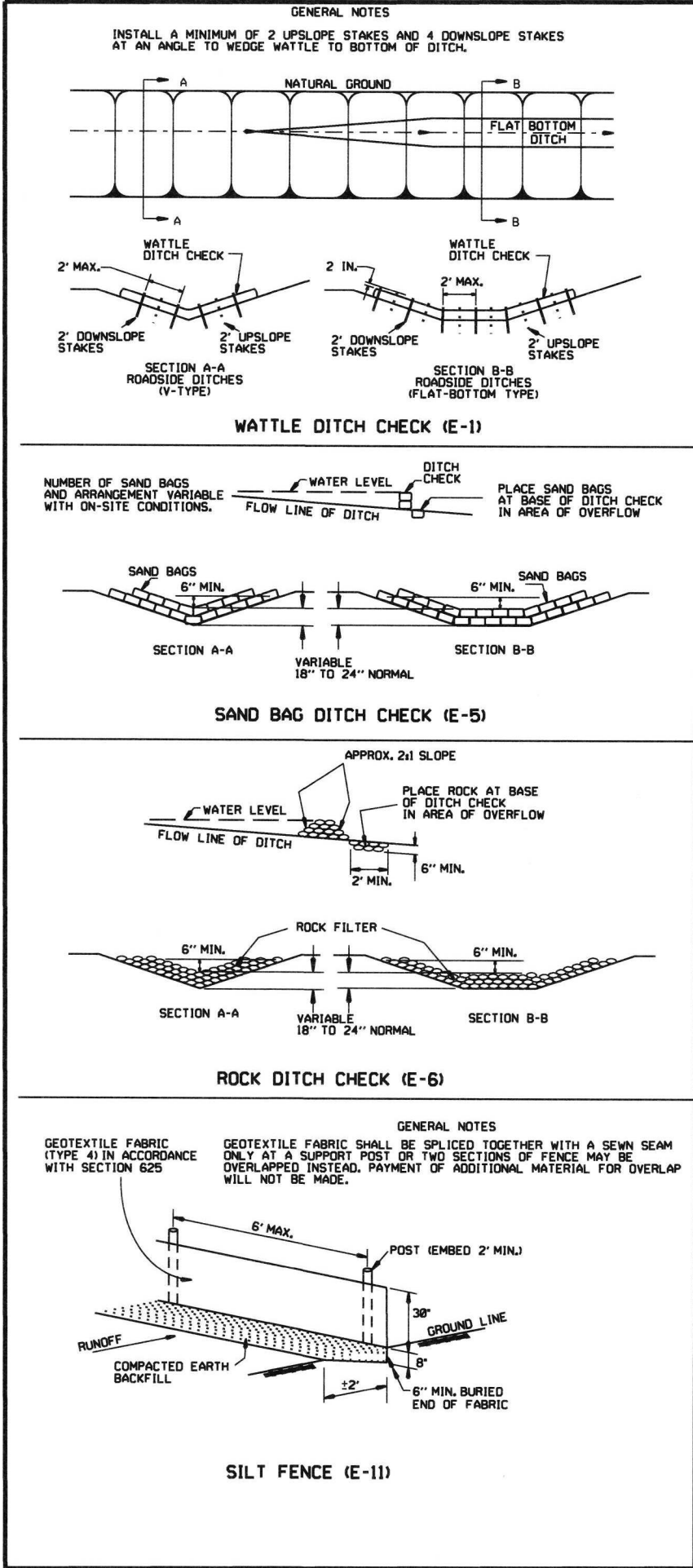
⑥ A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
4-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	
DATE	REVISION	FILED

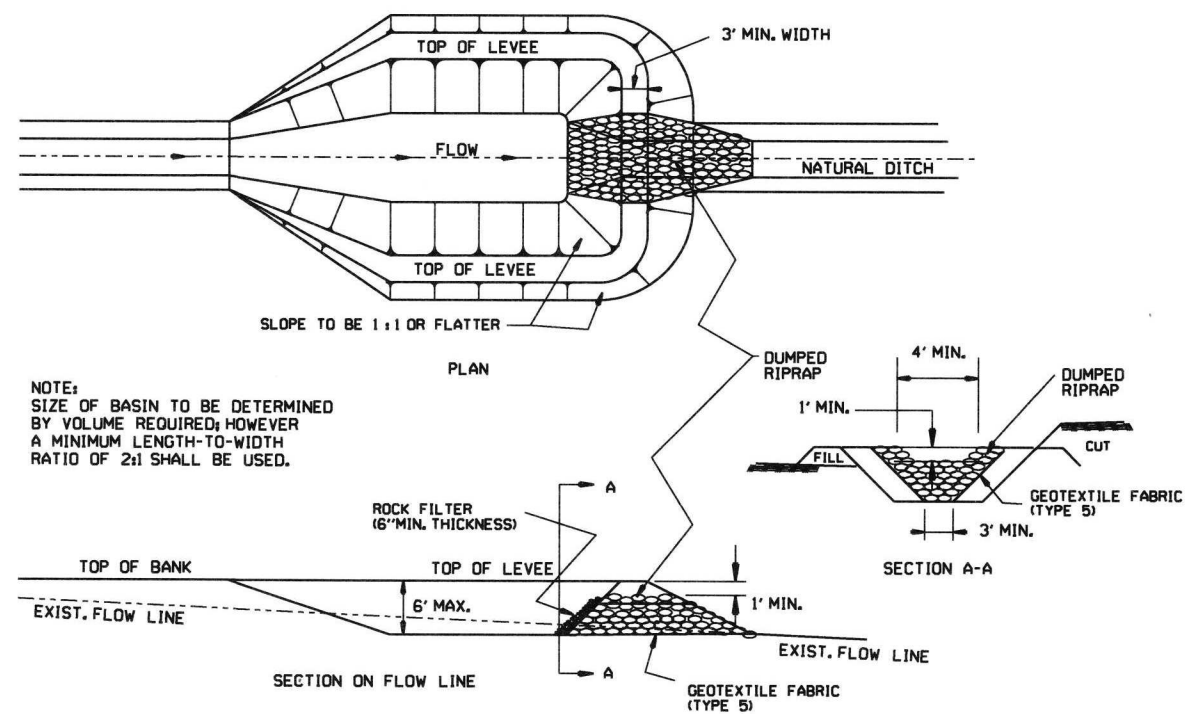
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION -  
TEMPORARY PRECAST BARRIER

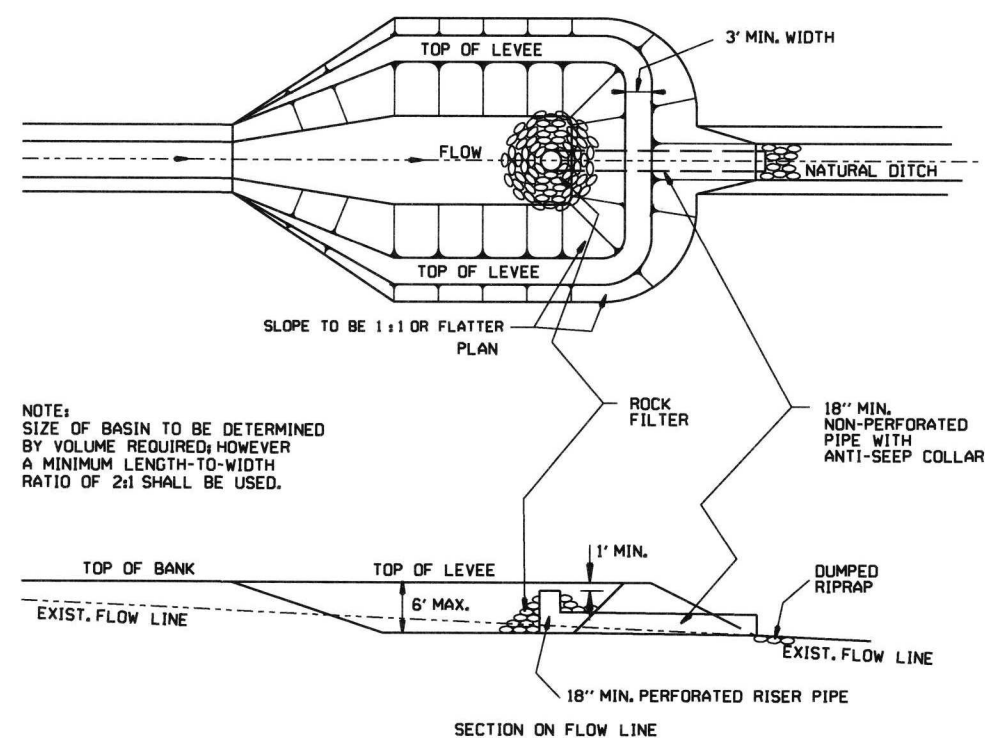
STANDARD DRAWING TC-4



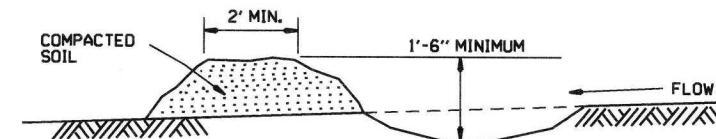




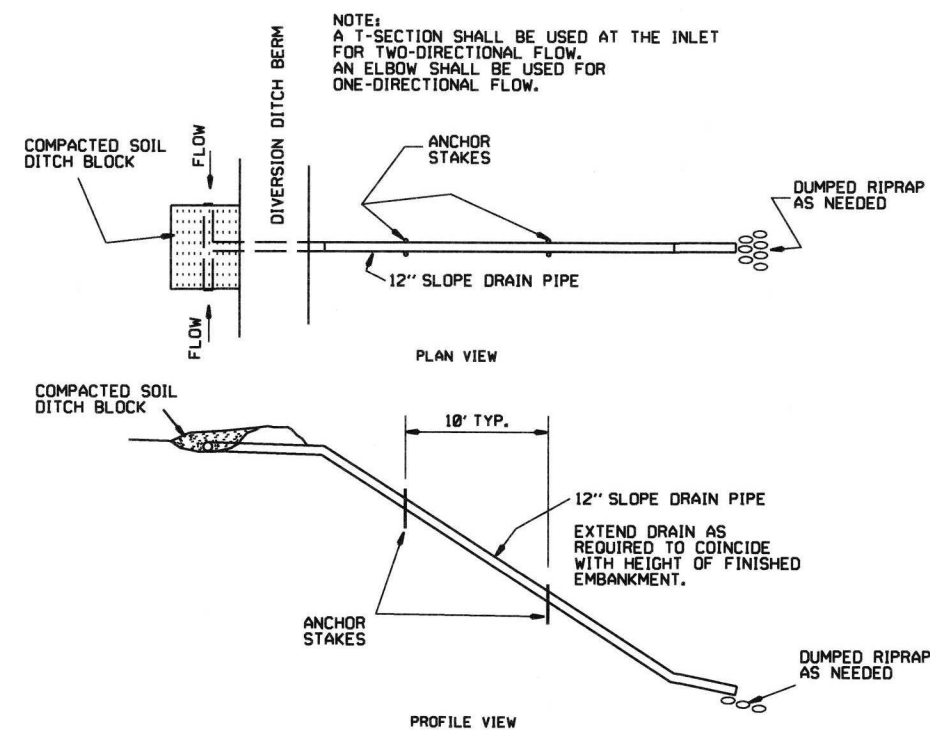
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



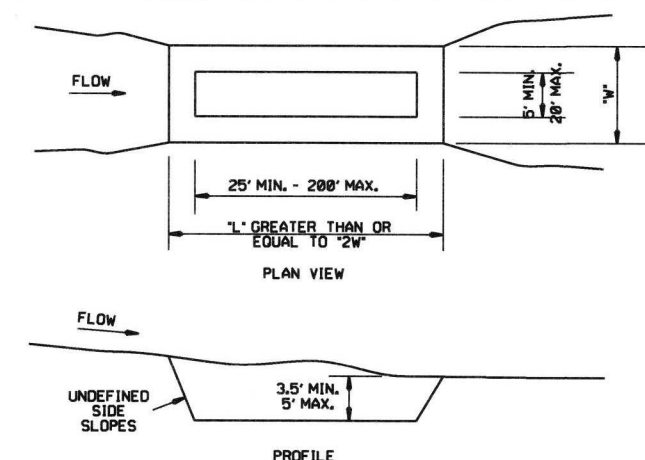
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



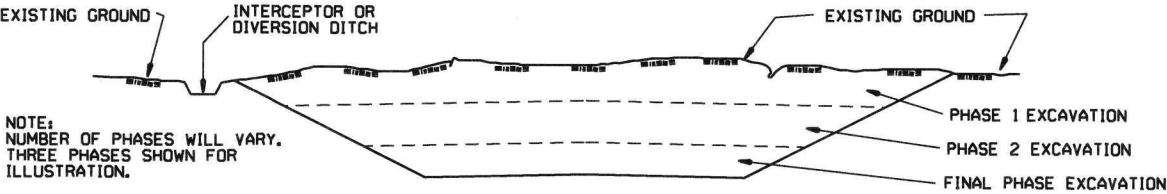
SEDIMENT BASIN (E-14)

ARKANSAS STATE HIGHWAY COMMISSION			
TEMPORARY EROSION CONTROL DEVICES			
STANDARD DRAWING TEC-2			
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE
- 1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES ,DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
  - 2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

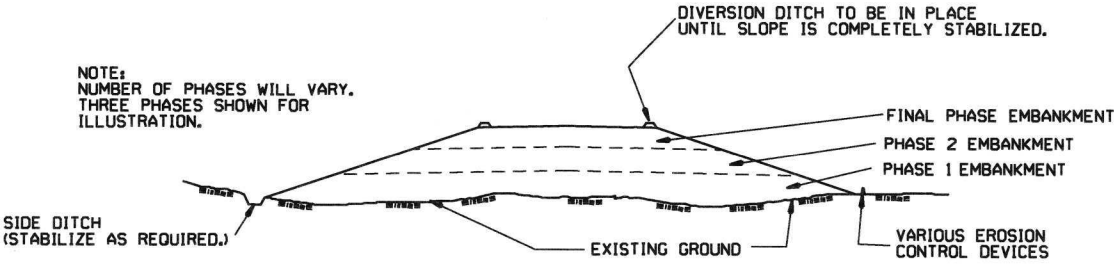


GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

- CONSTRUCTION SEQUENCE
- 1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
  - 2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
  - 3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
  - 4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



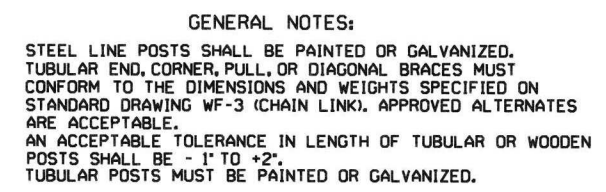
GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

- CONSTRUCTION SEQUENCE
- 1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
  - 2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
  - 3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
  - 4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

ARKANSAS STATE HIGHWAY COMMISSION		
TEMPORARY EROSION CONTROL DEVICES		
STANDARD DRAWING TEC-3		
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94
DATE	REVISION	FILMED

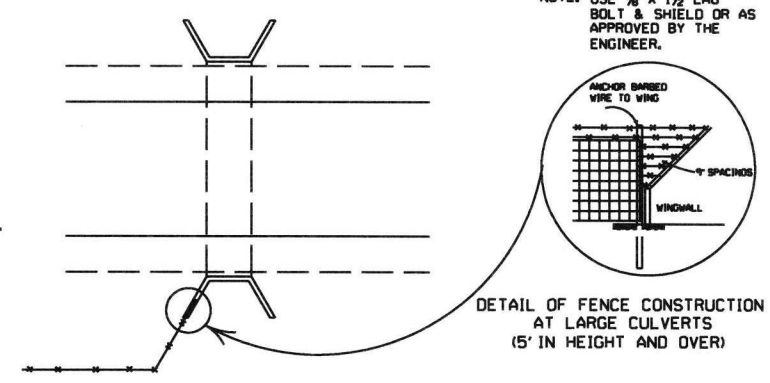
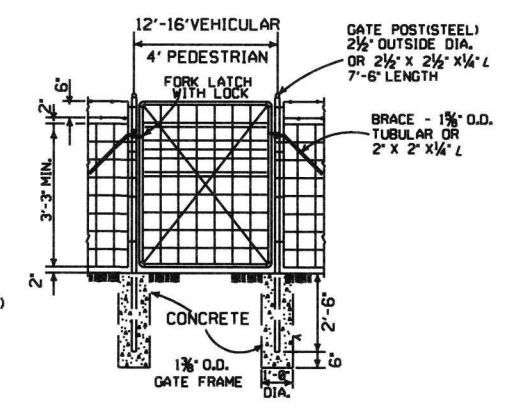




THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

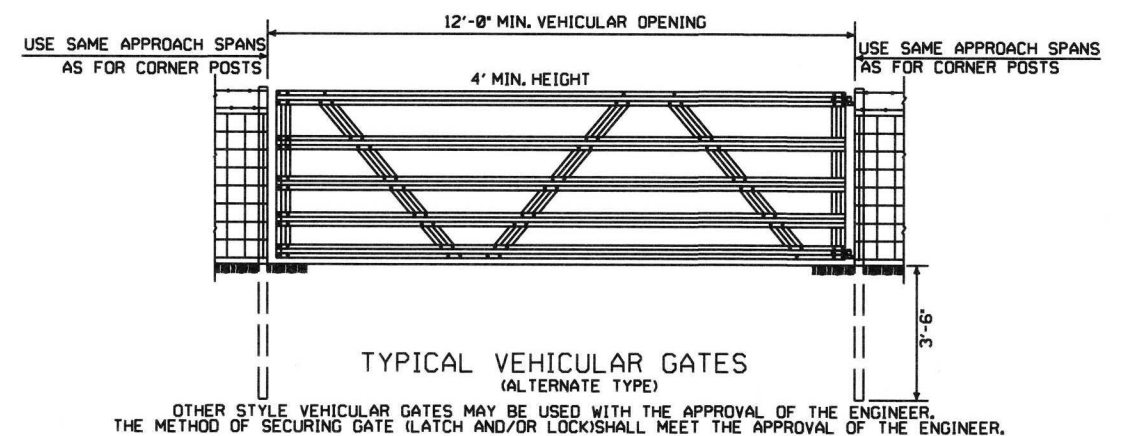
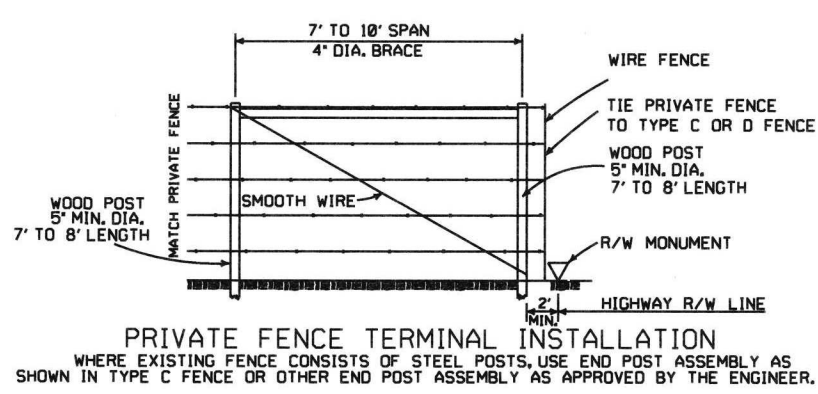
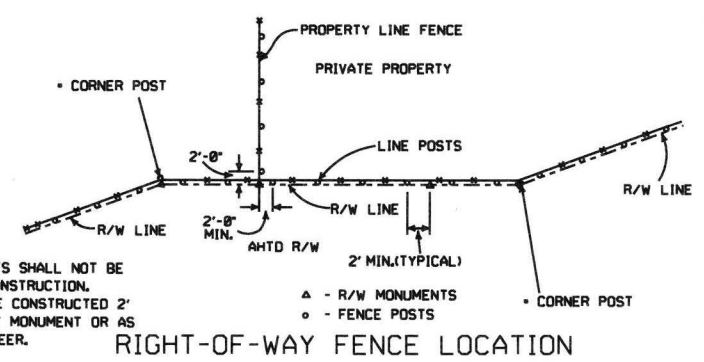
AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS, WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD, WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.



SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE  
WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.



8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE  
TYPE C AND D

STANDARD DRAWING WF-4